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20 PD PROGRAMS REVIEWED

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ISSUE 41 ● £2.95 ● FEBRUARY 1994

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Tape to disk SMART! Turn to p.7.

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ARVI b

The indestructible CF crew

HUTCH
CAPTAIN BLACK

The CF crew, in order to take a slightly novel holiday, managed to arrange for some Gerry Anderson stunt doubles to swap jobs with the CFers for a month. On hearing the news, Captain Black was said to be delighted; "It's always been a great ambition of mine to work for one of the old masters – no-one can truly estimate his capacity for evil. This has to be the pinnacle of my career".

Things didn't go too well for Spectrum, though, and the last we heard of Hutch was when the local pet shop sent us the bill for thirty woodpeckers (free delivery).

OLLIE
CAPTAIN SCARLET

The whole holiday scheme nearly got horribly fouled up when Captain Scarlet found out he had to have a drastic change of hair style, and lose the sideboards he'd been growing since the end of the last series.

"I like the more challenging roles, but I'm not sure I can handle this – I can't draw"

Ollie, on the other hand, got on famously as Scarlet. He'd survived Hutch's attack on Spectrum by spending his time playing in one of the super jet planes with the whizzy bits."

LISA KELLETT
DESTINY ANGEL

We'd let you know how Lisa's getting on as Destiny Angel, but no-one's quite sure. In fact, no-one's seen them since they made their excuses and wandered off toward the town centre, Destiny boasting that Colonel White had leant her his credit cards for the day. It's probably just as well, because no-one wanted to let her at the controls of a plane.

SIMON FORRESTER
CAPTAIN OCHRE

Upon learning he was Captain Ochre, Simon was not at all pleased. "I haven't got anything that'll go with ochre!" he cried. Simon only agreed to appear in it when his new found double pointed out that (on the rare occasion when he's in it), Scarlet gets most of the lines. "Captain Scarlet is something of a scene steeling show hogger, he said."

COLIN CAMPBELL
COLONEL WHITE

Colonel White was more concerned about his credit card than his new role, which meant he was perfect for the job. He has since moved Skybase to Barbados.

CONT

8 COMPO/GAUNTLET

The ultimate challenge page. This is where we throw down our own gauntlet and ask you to beat some difficult scores and also where you can win loads of fabby prizes. Step on up.

9 CHARTS

What's up, what's down, what's in, what's out. What are you lot spending your hard-earned cash on?

12 THE ULTIMATE GRAPHIC ADVENTURE

In which Simon looks at this frequently misunderstood form of game and comes up with a very strange theory about Marsport and the oddly named Tir Nanog.

14 NEWS & SNIPPETS

Crystal ball at the ready, the CF crew peer outside the office door and see what's happening in the world outside.

15 ESSENTIAL EDOS

You'll find an EDOS machine in a John Menzies near you. Here we tell you exactly which are the 50 games you should invest in. Get that Chrimble money ready.

18 SUBSCRIPTIONS

It's the craze that's sweeping the nation. More and more people are subscribing to the most popular C64 magazine in the world. Why? Because they get their issues early, without having to go to the shops, cheaper than they are in the shops, with a free gift, a subscribers letter and a general feeling of love and warmth from all concerned.

19 MIGHTY BRAIN

Some of you have had the audacity to suggest the Mighty Brain doesn't in fact exist. That's right – some of you have the bare-faced cheek to suggest he's totally fictional. We find this kind of scurrilous rumour-mongering to be the lowest form of insulting behaviour (and it's not very nice). Next thing you'll be telling us that Santa Claus doesn't exist, the tooth fairies have gone into liquidation, and that Nicholas Parsons isn't the anti-christ.

GAME REVIEWS

15 ESSENTIAL EDOS

What's all this EDOS Business about then? Well, if you'd wandered into John Menzies recently you'd have seen a rather moody looking cabinet with lots of games boxes coming out of it. These machines enable you to get hold of rare games, because most of the software houses have bunged their entire back catalogue onto them. We've picked out 50 of the best games and they've been given a thorough going over. Included in the list are gems such as:

ALIENS, ARMY MOVES, BMX SIMULATOR, BOULDERDASH, CAPTAIN BLOOD, EXOLON, HEAD OVER HEELS, MATCHPOINT, RBI2 AND SAM FOX STRIP POKER.

15

17

22 BUY-A-RAMA

Looking for a thingamabob, desperately seeking a widget or simply seeking Susan? This page is the key to your problems.

23 TECHIE TIPS

Compatability problems? Duff printer output? Datasette playing up again? Jason Finch has forgotten more than we'll ever know about such techie things and he can help you. Fret no more, come out of the closet, right to him today.

26 DR FINCH

Ever have to stay after class for special lessons with teacher? We all did, but if Dr Finch had have been around we might have caught that last bus home.

28 MR PLEXOR

If you've mastered coding but can still only get eight sprites moving around at once, then Paul Black's got some good news for you. Here's how to get 32 sprites moving at once.

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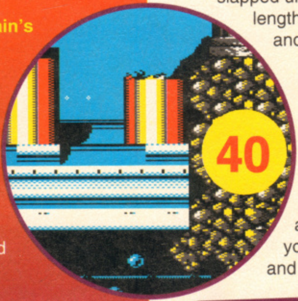
ENTS

GAMEBUSTERS

Hold onto your hats because Britain's number one tipster is back with cheats, hints, tips, listings and that little loving that no-one else can offer. Andy Roberts *is* the king of the tipsters.



37 GAMEBUSTERS This month it's back to normal as we present loads of listings for frustrated gamesters the world over.

38 LISTOMANIA
Wodges of hints, cheats, listings and pokes for bad losers and their friends.

39 SOS DIZZY 2
The divvy egg with the inane grin has two more of his adventures solved,

40 NOBBY PART 3
The aardvark's adventures continue. This month Aunt Lotty joins the Salvation Army.

42 VOLKAN
Completely mapped for your help and delight.

43 MAYHEM HAPPY JELLYLAND
Mayhem's got his chuffed face on again…

47 MAYHEM SAD PIPELAND
But not for long, because it's onto the next level.

29 SECRET OF SEUCKCESS

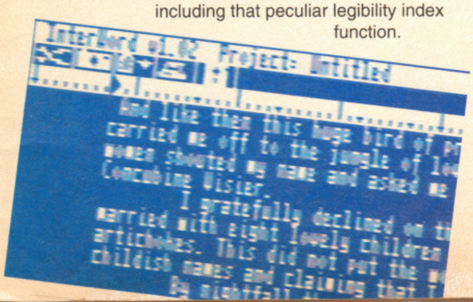
Learn how to improve your very own shoot-'em-up construction kit games, with our tech-head resident expert, Jon Wells.

30 SOFTWARE CITY

As the C64 market contracts, it's getting harder and harder to just find games to play. Here we give you the low down on exactly where to buy games, how not to get ripped off and what to do if you are.

32 INTERWORD FEATURE

This word processor was given away on CF40's covertape. This feature covers all its hidden secrets, including that peculiar legibility index function.



```
And like then this huge bird of
carried me off to the jungle of
women shouted my name and asked me
Concubine Visier.
I gratefully declined on
married with eight lovely children
artichokes. This did not put the
childish names and claiming that
By nightfall
```

34 PD FORMAT

Zillions of public domain games, demos and utilities slapped under the microscope and analysed at length. This month: loads of shoot-'em-ups and some odd graphical demos.

36 POCKET OFFICE

Part two of Simon's investigation into telecommunications. This month he discusses bulletin boards and commercial networks. Get yourself a modem, a spare telephone and get on-line.

51 BETTER BY DESIGN

More secrets to game design from the designers, programmers and beer drinkers of Creatures.

52 MAIL ORDER

Buy some gear.

54 CHIP OFF THE BLOCK

The secret life of the C64 – what really lurks beneath that case.

54 CHIP OFF THE BLOCK

Sometimes small parcels conceal mighty secrets, sometimes they don't. The C64's certainly does.

56 BEG, BORROW, STEAL FEATURE

What happens to old C64 titles? They mysteriously reappear on the consoles in a different hat. Hutch gets all worked up about it…

58 NEXT MONTH

What does issue 42 hold in store? Have we all recovered from the new year yet? Why is everyone already going on about the summer when most of the country's under six inches of water? If the devil's evil, why does he punish you for being bad?

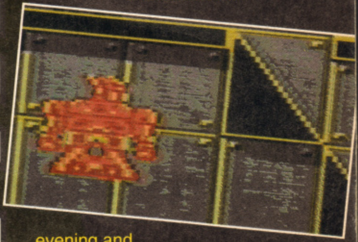
Yet again we bring you a host of brilliant games all packed on to one discreet tape. No one ever need know you're using it.

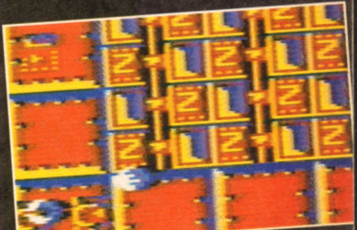
COMMODORE FORMAT
2 FULL GAMES
POWER PACK
FUTURE KNIGHT
VENGEANCE
PRISM LEISURE CORPORATION plc • GREMLIN

POWERPACK PAGES

FUTURE KNIGHT

Some people like nothing better than to put their feet up with a mug of cocoa in front of the telly, and spend the entire evening doing a really quite accurate impression of a particular lethargic vegetable. Other people prefer to leave the office of an evening and explore brave new worlds. There is that third category of knight that prefers to go off and conquer old ones, whether they're friendly or not. This month, we give you the chance to 'do' some conquering of a hostile alien planet.





VENGEANCE

There's more than one way to conquer a planet. The second way would be to clamber inside a space ship and kill everything in sight. What a good idea. Vengeance is just that – the chance to get revenge on an alien fleet purely for being alien (xenophobia can be fun, kids).

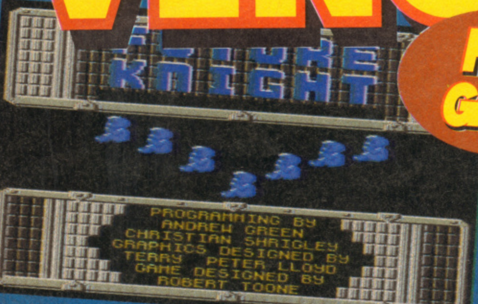
POWER PACK 41

Pure game action for you this month. Two stonking titles straight from the vault marked 'Classic'...

COMMODORE FORMAT
2 FULL GAMES
POWER PACK
FUTURE KNIGHT
VENGEANCE
PRISM LEISURE CORPORATION plc • GREMLIN

VENGEANCE

FULL GAME


FUTURE KNIGHT

PROGRAMMING BY
ANDREW GREEN
CHRISTIAN SHRIGLEY
GRAPHICS DESIGNED BY
TERRY PETER LLOYD
GAME DESIGNED BY
ROBERT TOONE

You know, I remember seeing something very much like this at a party in Walthamstow, once.

Simon journeys into the future, and becomes a knight of old who's pants are bold. And they say the art of straplines is dead.

Even though it's probably about some mystic quest or something, we're going to believe it's an 'only one man can save the etc' style thing, because that's more fun, and no-one wants to try and defeat some smelly old wizard anyway.

NO LOAD ZONE

If you're having a hard time loading this month's powerpack then plonk the duff tape in a jiffy bag, slip in an SAE, seal it up and send it to: CF 41 Tape Replacement, Ablex Audio Video Ltd.,
Harcourt
Halesfield 14,
Telford,
Shropshire. TF7 4QD.

SIDE 2
CF
POWERPACK
tape

This is a platform game. You are a knight. In the future. The aim of the game is to, erm, complete it, and this is how.

You play the part of that little rounded knight, jumping around killing lots of things, and venturing through the absolutely huge playing area, jumping up steps, sliding down slopes, using the teleports and weapons stores.

The teleports are quite simple – at some point during the game you'll come across a small wall panel marked 'exit'. All you have to do is stand on that square, and you'll got through to another part of the map.

The weapons stores are just as easy to get to, and you'll find them in wall panels as well. All you have to do is walk up to them, and press fire to try out your new blob-gun or whatever.

Things to avoid or, if possible, kill:

- Anything that moves (including water).
- Anything else that might move at some stage.
- Anything that fires things that move in your direction.

Things to take notice of and collect or embrace or something:

- Teleports.
- Weapons stores.
- Absolutely nothing else, because this is a dead scary game that frightens wildlife.

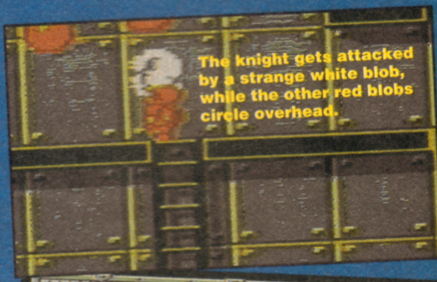
999 LIVES

It may seem like a lot (it is, after all, one hundred and eleven cats all put together), but they go down incredibly quickly. Bad guys can take any amount of them in one go. It's not nice, but it just means you'll have to hurry, and don't get into too many close scrapes.

YOU'RE THE BOSS!

Does anyone else remember that show? We give them classic British comedy at its finest, and they give us *The Upper Hand*. Thanks ever so.

Occasionally you will meet a boss. It's nothing to be scared of, it's just a really huge bloke who's not only incredibly dangerous, but also really very difficult to kill. Not that you should worry or anything. Just face it and fire a lot.


The knight gets attacked by a strange white blob, while the other red blobs circle overhead.

FUTURE KNIGHT

YOU

PROGRAMMING BY
ANDREW GREEN
CHRISTIAN SHRIGLEY
GRAPHICS DESIGNED BY
TERRY PETER LLOYD
GAME DESIGNED BY
ROBERT TOONE

It's a scrolling message. Aren't you glad you went out and bought this magazine, now?

QUICKSTART INFO

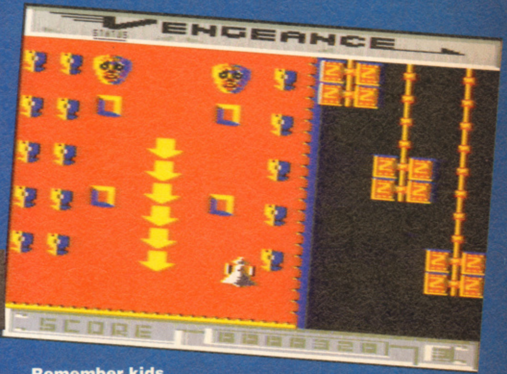
Side One • Tape Count 000 • Joystick port 2

UP	Jump.
DOWN	Crouch.
LEFT	Run left.
RIGHT	Run right.
FIRE	Er... Well... Fire, really.

Other Info........To pause press RUN/STOP.

FUTURE KNIGHT

FULL GAME

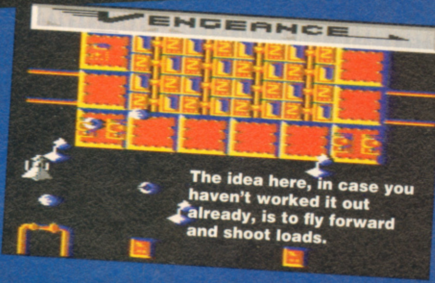


Remember kids, don't try this at home, even though mass murder is good. Thank you.

Vengeance is mine. Well it's not really – it's yours as well, and here's Simon to tell you what it's all about.

I think this sums up the whole idea of the game really quite well – fly, shoot and look good.

VENGEANCE
CRL



The idea here, in case you haven't worked it out already, is to fly forward and shoot loads.

None but a mad man would attack the fleet on his own. Only a fool would attempt to enter their craft to engage them single handedly.

The reward for such folly must surely be instant death. If he was mad he didn't care. If he was a fool he would die a hero. The alien terror had to end, someone had to stand and fight… fight them on their own ground. Teach them a lesson that they would never forget.

As he entered their strange craft, he was faced with an awesome maze of corridors and passageways, He never dreamt that they would look like that. Not in his wildest nightmares.

If he was to die for his lone resistance then he was happy. His only prayer was for vengeance. His goal maximum destruction.

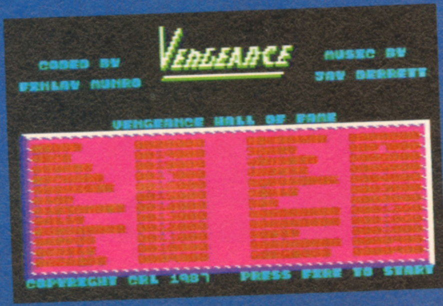
STUFF:

- Guns, which fire bullets at your current position.
- Missiles, which home in on you.
- Energy pod (low) gives you 5 units of power when shot.
- Energy pod (high) gives you 10 units of power when shot.
- Random pod 1, giving either speeding, 200, 50, invincibility, remove all or nothing.
- Random pod 2, giving either extra lives or nothing.
- Random pod 3, giving either extra fire, 00, 500, remove all, or nothing.

Shooting aliens or energy pods increases your power level (the 'select' option gives current power). When sufficient power has been collected, you may attempt to board one of the alien ships. The amount of power is reduced in two ways – firstly there is a fixed amount required to board each kind of ship (the more hits it takes to blow up a ship usually indicates whether it will require a large amount of power to board or not), the power is also reduced constantly as you move the select cursor about the screen – so the closer you can get to the ship you want to board, before entering select mode, the better. Also, moving the cursor over a bullet or explosion rapidly depletes the power level.

When a ship is boarded you must search through the maze, and find the hidden engine component, shooting any nasties that may happen upon you. Getting killed at this point reduces power to zero, and teleports you back out of the ship.

When all 8 components have been retrieved (one from each of the 8 kinds of ship displayed on the 'boarded' option), you must survive to the end of the space station to complete the game. And that (as they say to camera) is that. CF



CODED BY FINLAY MUNRO
VENGEANCE
MUSIC BY JAY DERRETT
VENGEANCE HALL OF FAME
COPYRIGHT CRL 1987 PRESS FIRE TO START

If you mercilessly kill enough things, you could end up in the high score chart (or dead).

TEN POSSIBLE REASONS WHY YOU MIGHT BE WANTING VENGEANCE

1 – The alien force borrowed a fiver, and ran off before paying it back.
2 – As well as your fiver, they took your girlfriend and your favourite socks.
3 – Killing your cat as they drove off.
4 – The shock of seeing which emotionally scarred your daughter.
5 – Who promptly started mugging grannies.
6 – One of whom hit her back and killed her outright by bapping her with a courgette.
7 – But didn't get convicted, as it was seen as an act of 'self-defence'.
8 – You, however, got a very bad reputation as an abysmal parent.
9 – And your house got daubed with white paint as a protest.
10 – Which cost well over a fiver to get off again. Life's like that, isn't it?

QUICKSTART INFO

Side Two • Tape Count 000 • Joystick port 2

UP	Move forward.
DOWN	Drop back.
LEFT	Move left.
RIGHT	Move right.
FIRE	Fire.

Other Info........To pause press RUN/STOP.

Tape to disk

If you're lucky enough to own a disk drive and want to use it as well as admire it, then you can get hold of this month's Powerpack on disk. Simply cut out the token on the tape inlay card, write your name and full address on a piece of paper, pop 'em in an envelope with a cheque or postal order, made out to Ablex Audio Video, for £1.50 (to cover duplication costs) and send it to:

CF 41 Tape To Disk
Ablex Audio Video Ltd.
Harcourt Halesfield 14
Telford
Shrops. TF7 4QD.

THE GAUNTLET COMPO

Simon goes in for a complete game overkill, shows no mercy to small animals or their habitat and runs the EDOS Gauntlet...

Look at that action stance – this is a highly trained playboy hunk if ever I saw one.

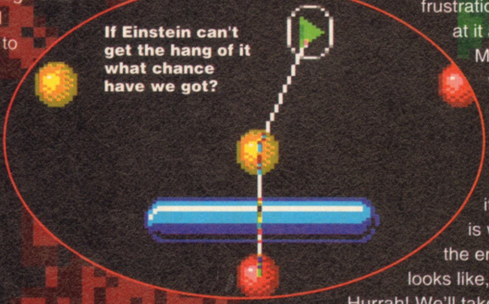
What with all the EDOS hype this ish, we thought it was about time to integrate it into CF's latest scheme, the Gauntlet. So if you flick through a few pages, finding the Essential EDOS guide, you'll be able to pick a prize. That's right – each lucky winner of this month's challenges will receive their choice of the EDOS software detailed on those pages (even the crap ones if you want).

So let's get on with the challenges themselves:

ANTIRIAD

We'll start with a really simple one – all you have to do here is find the gun for your anti-radiation suit. Simple, huh? This one will need a photo of your screen (sorry, but it's the only way).

E-MOTION



If Einstein can't get the hang of it what chance have we got?

Try some classic atomic fun (or frustration, if you're as bad at it as I am) with E-Motion. This time, you've just got to do something really, really simple like, erm, complete the game. Yes – that's it. All you have to do is write in saying what the ending of E-Motion looks like, and you've won! Hurrah! We'll take the first entry that lands on Simon's desk as the winner.

FREDDY HARDEST

Even simpler – if you complete the second part to this classic little platformer (and it's been on the covertape, so everyone can have a go at this one), you'll get a really rather misleading little message. So just write in, telling us what that message is, and you too could have your choice of those EDOS goodies.

Oh what fun. What a lovely game this is. I think I'd better go any lie down now.

KENTUCKY RACING

The winner of this one is the person who can actually stand playing the damned thing for the longest length of time. Entries by video tape only.

POSTIE PAT

The final challenge this month is simply to write in telling us what the final mission actually is. So complete the game, write down what your last errand was, and send it on in.

WHAT DO I HAVE TO DO

Once you've actually completed the challenge, simply fill in the form below, and send it to:

The Gauntlet
Commodore Format
Future Publishing
30 Monmouth Street
Bath
Avon
BA1 2BW

There is space on the form for the name of a witness, which must accompany all entries.

RULES

1 The editor's decision is final. So don't ring in whining and trying to change his mind, or he'll just tell you to naff off.

2 People called Derek are not eligible to enter.

3 If the melon touches the floor at any point in the cookie scoring zone, the swivel chair must be used to score a conversion.

THE ENTRY FORM

Name:
Address:

Game:
Achievement:

Witness:

WIN! WIN! WIN! WIN! WIN!

ELSPA PENGUIN
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CHARTS

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4280
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10
WWF
WRESTLEMANIA

CHART FACTS

Street Fighter 2 makes its inevitable climb back up to the number one spot. How many Fun Schools are you lot buying? Did you all buy Triv for Christmas?

① Wrestling game. Grip, grapple, sweat and then fake a really big jump, eh?

⑤ Full price games.

㊺ Budget releases - you stingey lot.

③ Ejuekashunall programs. Home education C64 style is it then guys?

THAT WAS THE MONTH THAT WAS: FEBRUARY 1991

1 *Back to Future 2* (Mirror)
2 *Golden Axe* (US Gold)
3 *Hollywood Collection* (Ocean)
4 *Midnight Resistance* (Ocean)
5 *Gunship* (Microprose)
6 *Wheels Of Fire* (Domark)
7 *Shadow Warriors* (Ocean)
8 *Turrican* (Rainbow Arts)
9 *Super Off Road Racer* (Virgin)
10 *Emlyn Hughes International Soccer* (Audiogenic)

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- Smart pair of light blue swimming goggles. *(Ollie).*
- Super black Harley Davidson ballpoint pen. *(Hutch).*
- Ticket to see the Comedy Store players at the Theatre Royal. *(Hutch).*
- Expensive shampoo "to wash my lovely long locks". *(Lisa).*
- Cute pair of fluffy slippers. *(Lisa).*
- Lovely cute pair of Winnie the Poo socks. *(Lisa)*
- Bottle of Oban 12 year old single malt whiskey. *(Hutch).*
- Several hangovers. *(Simon).*
- My dead tasteful nose ring. *(Simon).*

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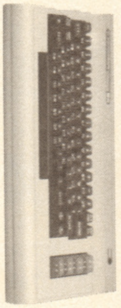

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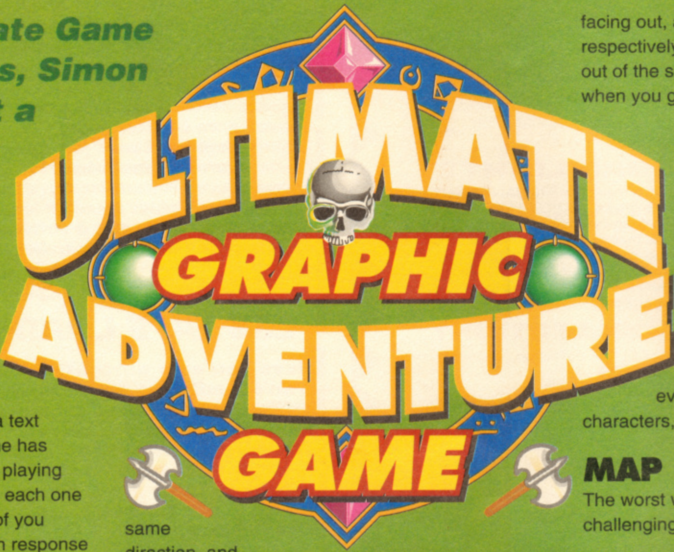
In the last of Ultimate Game feature of the series, Simon finds out just what a graphic adventure is and then loses the envelope with the answer in.



ULTIMATE GRAPHIC ADVENTURE GAME

Graphic adventure games are odd little fish – the easiest way to look at them is as the graphical equivalent of a text adventure. Just as a text adventure game has locations, a graphical adventure game's playing area is divided into a series of locations, each one different. The basic idea is that instead of you typing commands like 'east', 'take', etc in response to a textual description, you can find your blokey in the scene, and guide him round the maze with controls almost like a platform game.

The whole genre started with the games produced by a company called Gargoyle, who started everything off with *Dun Darach*. It was in this game, incidentally, that they very neatly demonstrated the first major flaw in many graphic adventure games (GAGs from here on in, to save on my typing); original enough to pass the review stage with flying colours though it was, it really did get difficult to work out which way you were facing, what direction you were walking in, and which direction you'd end up having travelled in. Back then, though, no-one cared a jott.

The problem was a difficult one. The *Dun Darach* world was built up of a series of corridor-like pathways arranged (or otherwise) in a grid system. The main problem arose from the fact that not only could your view of the bloke shift direction, but your view of the pathways could too, meaning that North was never in the same direction, and subsequently idiots like me (and, I suspect, the rest of the completely averagely mentally challenged games-playing public) could never tell which way they were facing, or where anything was which made life a bit hard.

The concept was a strong one, however. In fact, it's the father of today's respected higher format games, such as *The Secret Of Monkey Island* (or rather *Heavy On The Magick* was, but we'll come to that later). The reason for the success is an ultimately predictable one; most game-heads look on text adventures as the most boring thing to appear on a computer since Advanced Train Spotting Sim, but if you take away the screen full of text and replace it with something a little more appealing, you can open up the versatility and depth of a classic text adventure game to everyone else.

Anyway, what's to change?

AMSTRAD CPC 464 · 664 · 6128
Tír na nóg
Rebound

The game with the most unpronouncable name ever. Winner 1983.

UNPRONOUNCEABLE

The sequel to the original *Dun Darach* was, wait for it, *Tir Ná Nog*, an equally unfathomable little title. Come to think of it, Marsport was pretty much the same, though this didn't serve to deter too many players. The point was, you see, that even though the method of exploration needed a little work, the actual concept of wandering round graphically was proving popular.

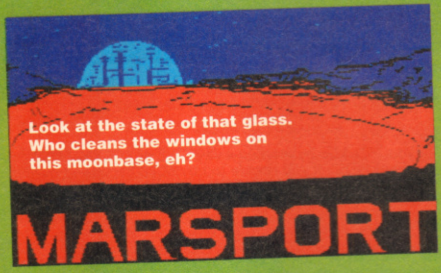
Thankfully, the directional problem was solved shortly after, with the slight style change. The playing area now always stayed facing the same direction, So north was always into the screen, south was always facing out, and west and east facing left and right respectively. The character itself was always facing out of the screen, and only turned to do his thing when you gave an instruction.

GRAPHICS

I think the best idea here is to keep the visuals simple; if everything was graphically beautiful, you wouldn't really be able to tell what was going on, and quite a lot of the game would be too small to work. Instead, very simple images and animations seem to be the best bet, taking up a suitably tiny amount of memory to leave space for everything else, such as a huge map, characters, etc.

MAP

The worst way to make any text adventure game challenging is to place the player in an unfathomable maze. If you go out of your way to disorientate the player, they'll hate you for it – wandering round trying to find puzzles is nowhere near as much fun as wandering around facing a new challenge every five minutes and completing a set of logical, well thought out problems. Sort of life The Crystal Maze.



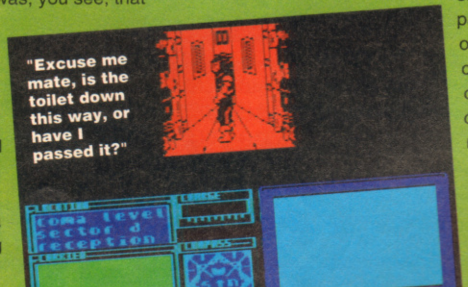
Look at the state of that glass. Who cleans the windows on this moonbase, eh?

Maps themselves have to be detailed – *HOTM* has various levels, accessible by staircases leading either up or down, and the idea worked very well – unlike quite a few games, you could actually tell when you changed level, or walked into a different section of your current one.

The one game that really stood out as having a slightly unfathomable map, incidentally, was Marsport. Even though it had loads of help as to exactly where you were (such as maps, corridor names, etc), it was still extremely easy to be come totally, comprehensively, inexplicably, and completely unfathomably lost.

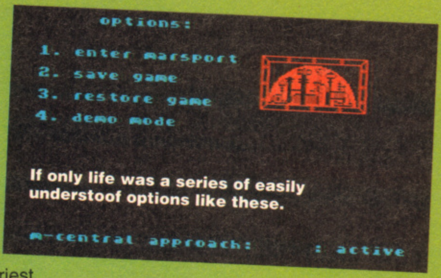
PUZZLES

The main problem faced by *HOTM* (which seems to be the clear winner of the genre, imperfect though it is) is the puzzle element, which relies on saying the right passwords on many occasions, and giving correct instructions to other in-game characters for the rest of the time – this kind of problem is common of nearly all text adventures to a certain degree, but *HOTM* proved that it doesn't make for great games.



"Excuse me mate, is the toilet down this way, or have I passed it?"

So instead of needing to invoke a certain demon or whatever to get past the burning log, I'd prefer to make use of a bucket and a water tap, doing things the traditional way.



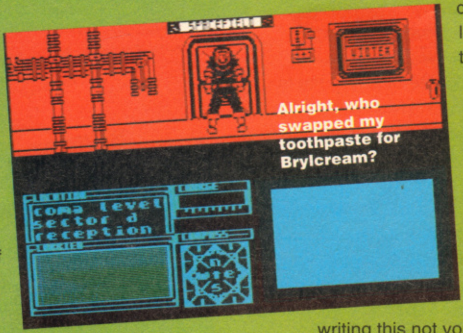
```
options:
1. enter marsport
2. save game
3. restore game
4. demo mode

m-central approach:      : active
```

If only life was a series of easily understoof options like these.

CHARACTERS

From the programmer's point of view, by far the scariest part of writing any adventure game is trying to get even vaguely realistic characters to wander about the place. The problem stems from the fact that if you want to get truly interactive characters in your game, you've effectively got to solve the problems of creating artificial intelligence, and this is a little beyond the range of most developers (not surprisingly). In our perfect world, then, we'll have characters with full artificial intelligence. In a slightly more realistic one, though, we'll have characters with a very simple, logical, and understandable system of communication, so that you can not only understand what they're trying to tell you, but so that you can get a message across to them with the bare minimum of 'I do not understand' messages. All this, sooner or later, brings us around to parsers (what a handy little link, even if I do say so myself) so:



```
coma level
sector d
reception
```

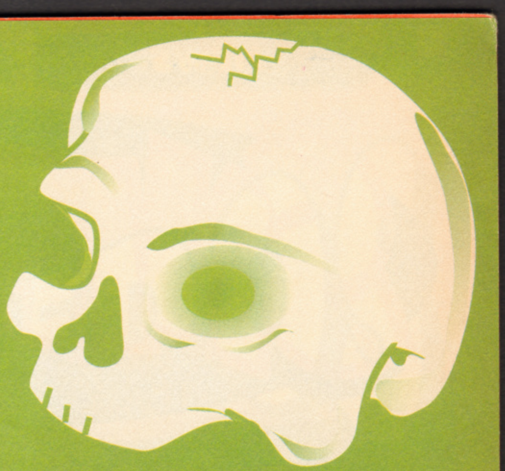
Alright, who swapped my toothpaste for Brylcream?

PARSERS

Parsers are that bit of code in a game which interpret what you're trying to say when you enter commands; the better the parser, the more complicated your sentences can be. There are two main types of parser in a GAG. Firstly there's the standard joystick control, meaning you have to guide the character directly to the appropriate door, object, or whatever, rather like an isometric games (*Knight Lore* being the classic example) with a different perspective. Secondly, there's the cut-down text input, meaning to go north you'd have to hit N, to pick an object up you'd hit P (registering as 'pick up' on the screen), and type the object's name out in full.

The joystick input method does have problems, the first being that it wastes time when you want to get on with the adventuring side of the whole game, and the second being that it's incredibly tempting for the programmer to then put timing and dexterity elements into what they're doing.

The keyboard element did seem to swing the whole emphasis of things back round to text adventures, but altogether it did seem to work best.



PLOT

Always a good one. Settings as well for that matter – as is their want, classic text adventure writers base everything in a medieval period, and, not surprisingly, most graphic adventures have tended to stick with the theme. I fact, the only two that have ever deviated seem to have fallen by the wayside – *Postman Pat 2* (the epic sequel to the action packed *Postman Pat*), and *Arkham Manor* (a classic detective story, featuring lots of trenchcoats and trilby hats).

Now I don't know about you, but I like a good bit of cloak wearing and spell casting, so medieval sounds absolutely fine to me. If there are mythical creatures and all that jazz, it's right up my street and, as I'm writing this not you, I think they'll play a major part in our fantablious ultimate graphic adventure.

So as for a plot for our ultimate graphic adventure game, we'll stick with what we know, and have a nice bit of swords and sorcery.

AMSTRAD CPC 464 664 6128
SPECTRUM 128 128+2
HEAVY ON THE MAGICK
REBOUND
HEWSON

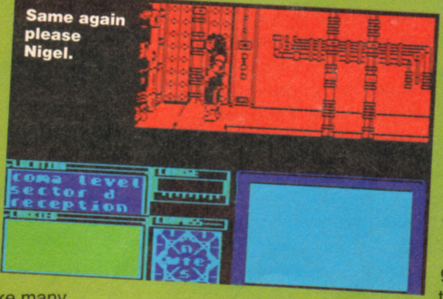
What a lovely large and shiney ball.

THE BIG ONE

I think, now, we've just about come up with the ultimate graphic adventure. Unlike many other game formats, the success or otherwise of these titles isn't dependent on additional features to the gameplay – once you've got spells, someone in a cloak, and a demon or two, it's all pretty much the same, differing only with map layout, puzzles, etc.

As for an ultimate game, ours will have:

- A nice little plot involving strolling round blowing things up with spells as imaginatively called things like 'hellfire'.
- Graphically, things had better be simple. If you try and produce console quality people wandering round, you'll just end up with an abysmal game – it's much better just to accept the fact you're on a graphically inferior machine, and produce graphics that are clear, to the point, and visible – you'll end up with a better game because of it.
- The parser will be heavily reminiscent of text adventures, though slightly more friendly than *Heavy On The Magick*. It has to be said, you see, that *HOTM* has possibly the most unfriendly interaction ever devised by man – hitting delete wouldn't step back one character, instead just adding the phrase 'forget it' to the line, leaving you to re-type the whole thing again. It's just nob. Don't do it. guys.
- A logically laid out map – I don't want to spend my time wandering around a castle garden maze, thanks.
- A few characters to avoid or fight, and a few to command, with the occasional one to give clues. 'Nuff said chums.
- Logical puzzles – if I end up discovering that I can't open the door until I've uttered the word 'hassenpfeffer' I'll go out, find the programmer, and kill him, taking out several small families on my way. I thank you all, now I'm off two the pub for a pint of heavy.



```
coma level
sector d
reception
```

Same again please Nigel.

CROSSOVER

As you may have noticed, there are quite a few references to isometric games throughout the feature. There are many graphic adventure games that are actually in isometric, making me think I'd better supply some sort of definition as to what exactly a graphic adventure is, as opposed to a platform game. Right. A graphic adventure is a game in which, though the movement and game style is graphical, the emphasis is placed on traditional adventure themes, such as object uses, puzzles, etc, as opposed to a platform game or exploration game, in which the emphasis is placed on dexterity and stamina.

Now we've cleared that up, I'd just like to confuse the issue by introducing a third genre, which crosses both lines, namely Codemasters' *Cosmic Spacehead*. Unfortunately, the mix of adventure gaming and platform action didn't mix – it was like a slightly reserved *Dizzy* game, being only slightly cack this time.

SNIPPETS

Wake up, and find out what's going on in the world of your computer – it's the C64 data set.

COMING ON STRONG

As you may have noticed, there's quite a lot of information in this ish on the new way of distributing software. EDOS, a system created by Software on Demand is set to be a storming success, taking old software back to the shelves for good.

In fact, as far as the shop keepers are concerned, the system is already doing incredibly well, boosting their business and giving a new lease of life to many titles that otherwise would have been dropped for good:

"Before [the EDOS system] came along, we had no choice but to slowly stop stocking games for some of the less popular formats. Ever since we started with EDOS, we've seen so many new customers coming in, knowing that they can find what they wanted in no time at all. It's just surprising that somebody didn't think of it earlier."

Of course, life is never really that simple. Though the games are all stored on a computer and are very cheap, enabling EDOS to support less saleable formats (they're still selling MSX stuff), the continuation of coverage still depends quite heavily on the support it gets from you, the users.

So instead of sitting back and thinking "oh – that's nice", why don't you just go out there and buy something? Think of this as an opportunity to get hold of a few of those titles you've always wanted, or catch up on a gaming era that you arrived too late to experience.

To find your nearest EDOS blokey, write to Software On Demand, Unit 1, Roseval Business Park, Newcastle-Under-Lyme, Staffordshire, ST5 7QT, or ring 0782 566566

IF THE GLOVE FITS...

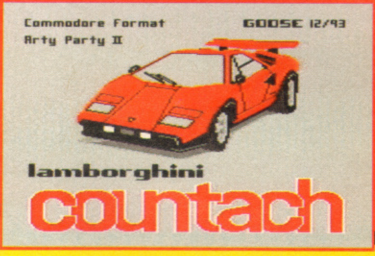
Last month, we decided to start a new regular section to discover the hottest games player around. What about you, though? Are you any good at a particular game? Maybe you think you're the best. If you've got an idea for a gaming challenge that you'd like us to set to the nation, drop us a line and let us know at the usual address. There's a prize of a free piece of software for any challenges we use. Remember – the challenges so far are for the highest score for the first section of Smash TV, to complete the crescent moon on Spindizzy, and the highest number of crossovers on one screen in Pipemania. So get cracking all you gameheads.

COME TO THE PARTY!

A few months ago, as you may or may not know, we started up another Arty Party (called Arty Party 2, no less). The response to the whole thing has been amazing, and we'll draw the winners, ooh, whenever we feel like it, really. If you want to enter, all you have to do is draw a picture on your C64 and send it along to us, not forgetting your name, address, age (if you really think it's important), and, in severe cases, a few words explaining what the hell it is you've actually drawn.

Send your art work to: Arty Party II,
Commodore Format, 30 Monmouth Street,
Bath, Avon. BA1 2BW.

It's a car drawn by someone who saw fit to call himself 'Goose'. Why?



WHAT? A SIMPLE PRINTER? NEVER!

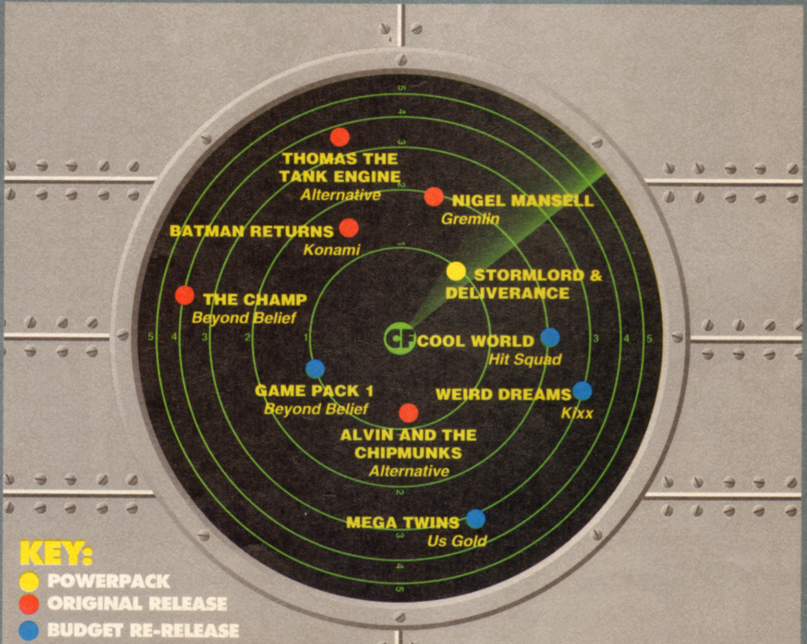
Well, would you believe it? Late news reached the Commodore Format office this month that Citizen, the company famous for printers (well, as famous as you can get for making printers, anyway), are due to release the latest addition to their range, said to capture the 'SOHO' end of the market.

Far from being the slightly seedier part of London, SOHO is an acronym for Small Office, Home Office, and will therefore be aimed specifically at people who've never used a printer in their entire lives, and aren't actually sure what it is to start with.

The launch is scheduled for the 12th of January, so expect more details next ish.

EARLY WARNING SCANNER

Your at-a-glance guide to upcoming releases. The nearer a game is to the middle, the nearer it is to release. Keep an eye out for aliens.



Simon takes a long hard look at what's hot and what, er, isn't in the instant software range now showing at a high street store near you...

ESSENTIAL EDOS

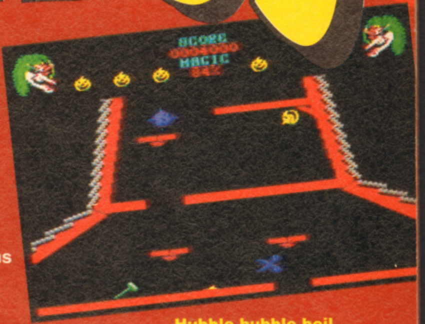
If you look elsewhere in this ish, you'll find a little feature on where to get your software. If you read it thoroughly, you'll have heard mention of a system called EDOS. If you want the full lowdown on exactly what the EDOS system is, you'll have to turn to that feature (it's in the centre pages), as the next three at this end of the mag are dedicated to some of the more memorable titles in the range.

CAULDRON 1 AND 2

(£3.99 Hi-Tec)

Sold separately, these two games are a good buy. Bundled together, they make a package you really shouldn't miss. The first game sees you as a witch, journeying around a hostile forest being attacked by bats, animals, foul creatures of the night (Wilf Lunn), and generally having a bad time, trying to fill cauldrons to complete some spell or other. The second game sees you, still as the witch, as a pumpkin, if you see what I mean, journeying round a castle trying to get restored to your former beauty, and having a thoroughly wonderful time, bouncing more uncontrollably than Dolly Parton on a pogo stick. *(What a thought! – Hutch)*

75%



Hubble bubble boil and trouble make George Michael lose his stubble.

ALIENS (US VERSION)

(£3.99 Alternative)

D'ya know how some licences are successful on every turn? Alien is one of them – every single version of every single game related officially to the film at some stage or another has been good, and successful because of it. Get hold of this game – it's good (I could do this all day, you know).

85%

ARMY MOVES

(£3.99 Alternative)

It's Incredibly Difficult 2, sequel to Incredibly Difficult, which is absolutely any other Dynamics game ever written. As with other titles in the rage, it's a nice chrome-coloured romp around a rather odd background, and it's difficult. Really difficult. So difficult, in fact, that it deserves to have 10% knocked off it's final rating. It has.

80%

ATV SIMULATOR

(£3.99 Codemasters)

This little Codies number involves you, a friend, and two all terrain vehicles. The game itself is a two-player split-screen horizontally-scrolling drive-'em-up, featuring several different landscapes, obstacles, nasties, and incredibly tight time limits. If you like the idea of a pitched battle of ATVing skill, this is the game for you, and the graphics, sonics, and general playability of the game only adds to this conclusion.

80%

BMX SIMULATOR

(£3.99 Codemasters)

What a surprise – another Codies simulator. This time, we're racing BMXs from an overhead point of view. The game allows two players to race, the second player being either computer or person. A word of warning – the computer players are impossible to knock off. In normal circumstances, when you hit someone, the game works out whose fault it was, and they go flying off. When you collide with a computer player though, they always stay on, and you always fall off, making you just pull into the side and let them pass after a while. Other features include an action replay system, along with several different tracks, so buy it.

85%

BOULDERDASH CONSTRUCTION KIT

(£3.99 Software Business)

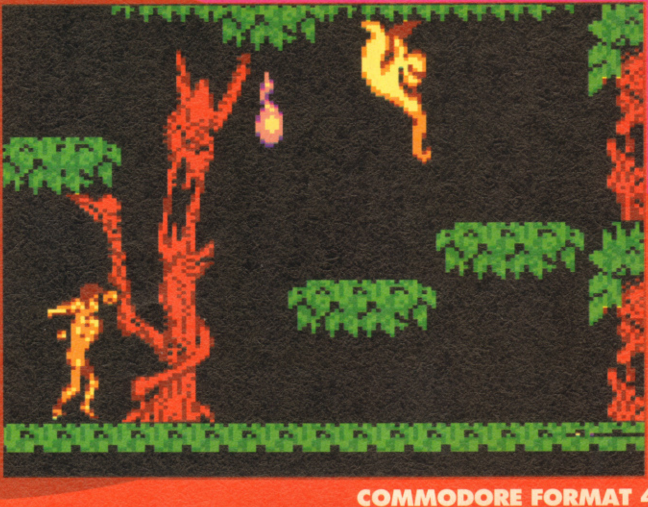
Throughout the many different sequels to the original Boulderdash, the whole range were hailed as being truly excellent (as well as quite original to the C64). This is partly because they were truly excellent (as well as quite original to the C64). To this day there hasn't really been a follow-up from any other software houses, and so Boulderdash holds its belt. Had there have been a follow-up, the odds are Dash would still hold its belt, as it's truly excellent (as well as quite original to the C64). The construction kit only strengthens the game, as when you're bored with playing the game's mazes, you can create some of your own. Its truly excellent (as well as quite original to the C64).

90%

ANTIRIAD

(£3.99 Hi-Tec)

You know, they say CF has quite a high female readership (as opposed to the 4 or 5 percent other mags get), so this game is detailed here for the pervs among you girlies. It features a naked blokey, you see, stomping around in a standard platform type thing with a few nicer novel tweaks. Nudity aside, this is quite a reasonable platform game, the point being to slowly collect more bits and pieces to add to your suit of armour which, when complete, should help you travel through the volcano.



"Oh mystic tree of Gooboondoon, by the power of the Slingbarts and with the admonishment of the sacred stone of Ugreetil, I beseech thee to tell me where I left my trousers."

COUNT DUCKULA 2

(£3.99 Alternative)

The joy of computer journalism is suddenly discovering a brand new game that, though simple in concept, is so amazingly stunning gameplay wise that you want to tell the world, and do so. Let's just say CD2 didn't exactly provoke this reaction.

0%

CAPTAIN BLOOD

(£2.99 Fun Factory)

Oh dear. The prospect of explaining this little number in under one hundred words is scary (that's 16 already). The idea is this; you play the part of Captain Blood, in his biological ship, travelling round the galaxy chasing down his sixteen clones. You do this by communicating with aliens, careering around planets, blowing them up, killing people, and giving birth. Oh dear.

90%

COUNT DUCKULA

(£3.99 Alternative)

An excellent platform romp type thing. Get it. Now. Pity about the sequel, really.

90%

DIE ALIEN SLIME

(£3.99 Tronix)

There's nothing like getting to the point, is there? Why call your game something original like *Alien Breed* or *Meganoid* when you can get straight to the point with *Die Alien Slime*? Failing that, it could be German, meaning, the German language being as different as it is, The Alien Slime. Are aliens even slimy? Whatever the weather, it's a reasonable game let down by a few unoriginal game features (such as, for instance, the game itself).

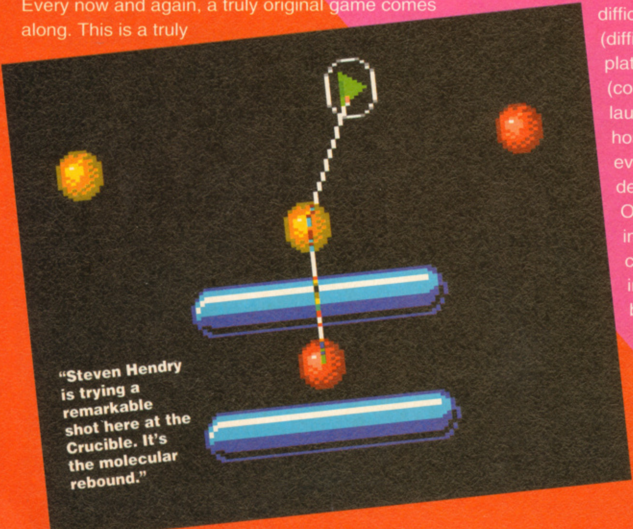
70%

E-MOTION

(£3.99 Kixx)

Every now and again, a truly original game comes along. This is a truly original game, being a cross between a shoot-'em-up, ice hockey, and nuclear physics. It'd take a while to explain, so if someone sends a while through the post I'll do just that. In the meantime, you'll just have to settle for a final rating score.

90%



"Steven Hendry is trying a remarkable shot here at the Crucible. It's the molecular rebound."

EAGLES NEST

(£3.99 Fun Factory)

That's right – go to EDOS and get your copy of the official RSPB game now. In fact, any high-crested red-chested snow chitty in the vicinity is going to be instantly disintegrated in a hail of rapid gunfire, as this is a WW2 storming-a-fortress type game. This, unfortunately makes this game really quite "dredging up the past and haven't we given a new generation of nice friendly Germans quite a bit of stick over one nutter about fifty years ago?" but hey – I didn't write it. So as long as you don't mind all the racial issues (it's not malicious, anyway), go out and get it.

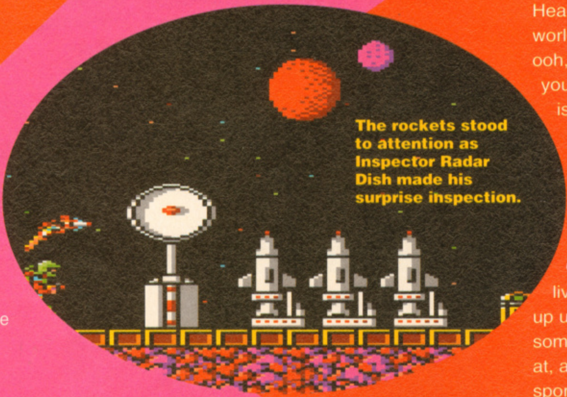
90%

EXOLON

(£4.99 21st Century)

As well as being truly excellent, Raff Cecco games are famous for two other features. The first was being really incredibly difficult. The second was also for being really incredibly different. They pushed back the boundaries of difficulty, you see. Exolon is Cecco's (difficult) horizontal flick-screen platformer, involving your bloke (complete with gun and rocket launcher) journeying across a hostile alien terrain, destroying everything that moves and, er, destroying everything that doesn't. On its own, this game is almost impossible. With an infinite lives cheat, this is modified to almost impossibly difficult. Buy, but beware (it's difficult, you see).

80%



The rockets stood to attention as Inspector Radar Dish made his surprise inspection.

FREDDY HARDEST

(£3.99 Alternative)

Be an international playboy, jetting round the universe, saving planets, and generally wowing the locals with your fantastic good looks, charm, wit, and sophistication. If you add a computer game to this, you get an absolutely wonderful flick-screen multi-levelled platformer, in which you have to defeat any number of aliens, hack a computer, and steal a space ship. Everything about this game means you should run out and get it, so do that small thing. Failing that, you'll find it on a covertape of old.

85%

With that, Larry cast the space hopper out into the black void.

HEAD OVER HEELS

(£3.99 Ocean)

Just think – a short walk into town, and you too could play the Jon Ritman classic, with music by Bernie Drummond. You play the separate parts of Head and Heels, on an expedition around various worlds, completing several puzzles, and doing, ooh, all manner of things (I've completely forgotten, you see). Quite simply, this is the definitive isometric game, and it's one you shouldn't miss.

95%

MATCHPOINT

(£3.99 Ocean)

Some people don't just sit in front of their C64s all day. Some people actually pursue lives outside that of their computer (sounds great up until now, doesn't it?) There are, however, some complete sickos that actually try their hands at, and I say the word with great distaste here, sporting activities. *(But Simon, both Ollie and myself engage in said activites. Are we really so bad? - Hutch)* Ladies and gentlemen, people of the jury, I propose we stop this cruel, unnatural and inhumane treatment right now, and get everybody to go out and buy Matchpoint the tennis game. With its smooth animation, excellent graphics, sonics and gameplay, it's a sure-fire hit.

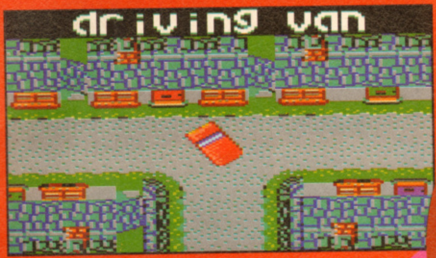
85%

MONTY PYTHON'S FLYING CIRCUS

(£3.99 Tronix)

Amazing platforming action, with its fair share of fish, feet, and Pa Gumbys. *(You forgot to mention the Larch, Simon! - Hutch)* If you haven't seen it yet, take a look; if you're as weird as we are, you'll love it. The game itself is based mainly around the animations from the cult comedy series, so at last you can take part in the pseudo-gruesome action you've known, loved, and probably not understood to the great extent.

95%



Sierra Oscar Nine from base calling DC Bartlett. Message reads, "My office now".

POSTMAN PAT

(£3.99 Alternative)

Yeeeahaaa! For all those too dangerous to be let out on the roads, I have the game for you. Postman Pat (the game) seems to have been aimed at kids, seemingly depriving adults from having too much fun. The proper idea is to gently trundle round a village delivering parcels and running errands. When you add a psychotic player, this soon translates into driving round a village in reverse at breakneck speeds, trying the most spectacular driving manoeuvres ever devised by man, hoping in desperation that your cat'll turn up so you can flatten it.

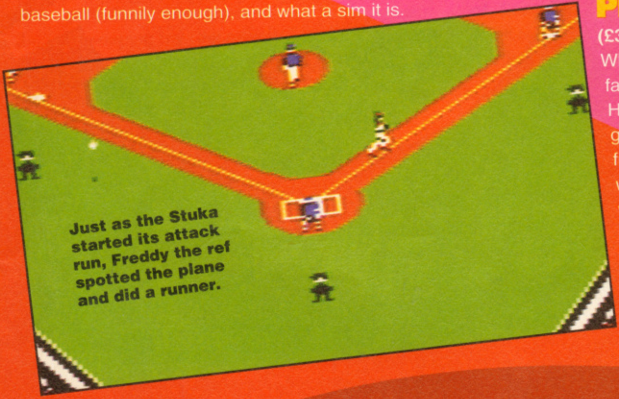
75%

RBI2 BASEBALL

(£3.99 Domark)

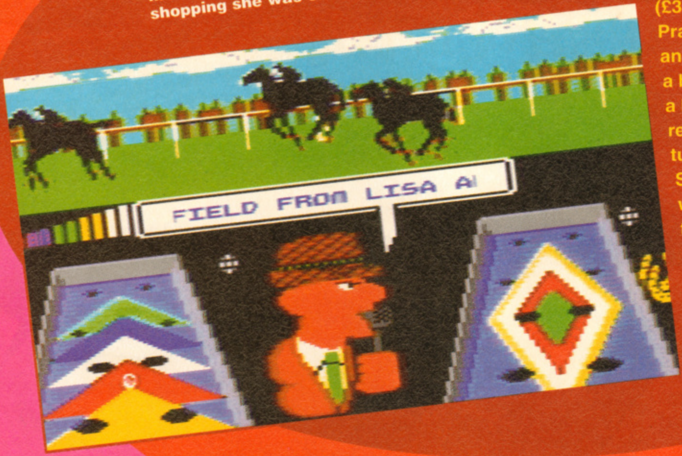
Another (euch) sports game, this time featuring baseball (funnily enough), and what a sim it is. In fact, as sports sims go, it's got to be one of the best around, featuring a heavily cut statistics section, and an extended game section, with lovely graphics, markings, players, animation, sounds, and, well, it's really good. Thank you, and give us all your lovely money.

85%



Just as the Stuka started its attack run, Freddy the ref spotted the plane and did a runner.

KENTUCKY RACING



Oh dear, Lisa's fallen at the first. Must have been all that shopping she was carrying.

(£3.99 Alternative)

Practice your wrist action and race horses throwing a ball through the holes in a little piece of wood. To a really irritating theme tune. Alternative Software, this is not the way to make money – this is the way to make any self-respecting reviewer vomit, shortly after butchering small rodents out of anger.

5%

ROCKY HORROR PICTURE SHOW

(£3.99 Alternative)

What do you want me to say? The fact that it's based on the Rocky Horror Picture Show pushes this game into the weird category. It's funny though, do you know anyone who's actually seen the film all the way through? It's one of those peculiar ones that you see bits of now and again.

80%

SAM FOX STRIP POKER

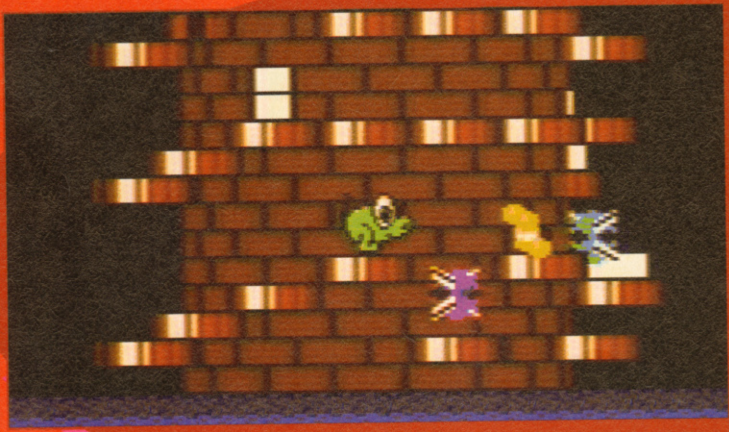
CENSORED

Don't know quite why we've censored this. The only person that hasn't seen her boobs is the Pope, and his calendar's on order.

(£3.99 Alternative)

For some unimaginable reason, the phrase 'sad sad sad sad sad people' springs to mind; if you're a depressing enough example of the human species to derive any sort of pleasure from this tat, we truly pity you. Seriously though, they do say that this is quite a moderate version of poker, but if Sam Fox flaunting her various squidgy bits around is likely to put off your poker face, steer clear. *(Speaking on behalf of the silent male majority, I found the pixelisation of her features ta bit off putting, but if you squint you can make everything out quite clearly. I await your hate mail – Hutch)*

60%



The frog stood on the burning bridge, his face was all a quiver. He gave a cough, his leg fell off and floated down the river. I thank you.

NEBULUS

(£4.99 21st Century)

Flippin' eck – are there no limits? Yepola, this is another amazing game that everyone must own. This one involves climbing up and down towers using the platforms strewn around the outsides, using lifts, doors, zapping baddies, moving blocks, completing puzzles, and catching fish (the whole this has a sort of watery theme).

90%

AREN'T ALL THESE GAMES GETTING UNUSUALLY HIGH SCORES?

Yes. This is quite simply because we've gone through the EDOS range and picked out some of the best (with a few of the worst for comedy value). If you want us to give you three pages of average games, we quite happily will, but for now we'd rather pick on the more interesting games in the range. More next month folks.

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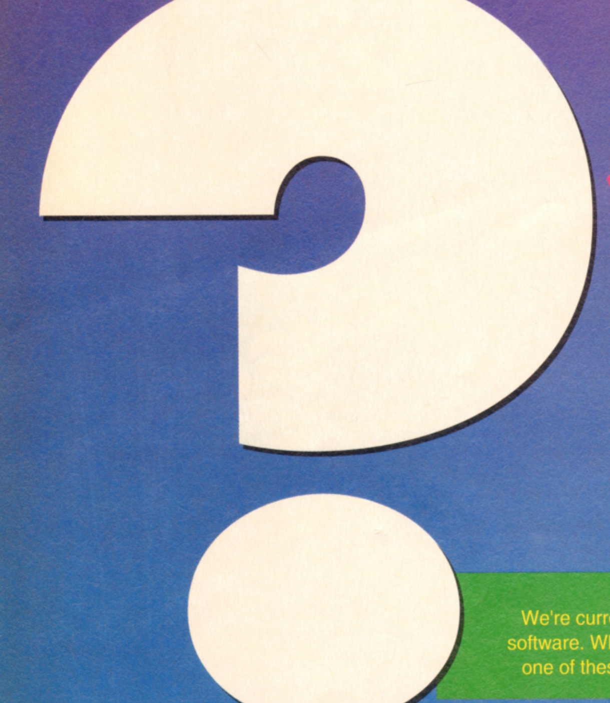

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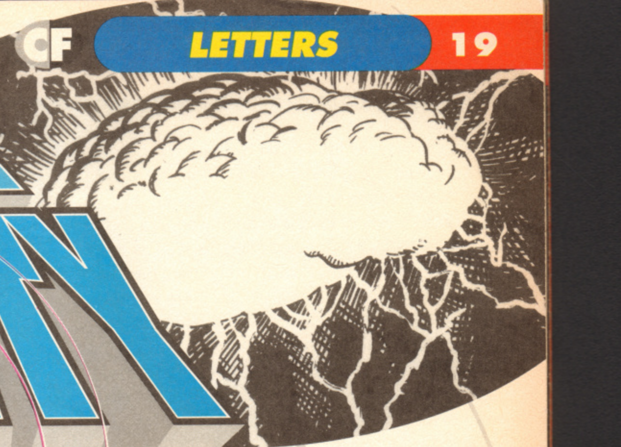
THE MIGHTY BRAIN



If you'd like to discuss your thoughts on war, religion, politics, or even C64 stuff, then write to the best looking grey blob ever to grace the C64 at Commodore Format, 30 Monmouth Street, Bath, Avon, BA1 2BW.

LISA'S NEW NO.1 FAN

1. I am writing about the letter called Lisa's No 1 Fan in CF38. Question 3 said that Lisa was more sexy than Clur. I would agree but Clur has more personality than Lisa.
2. I am Lisa's no 1 fan not Stephen who wrote that letter in the November issue.
3. I am keeping my real name a secret. If my little brother found out I wrote this he might tell my mum.
4. Where can I get a new SX64 and how much would it cost.

Robin Smith, Liverpool

PS: If John Bailey reads this I would like to thank him for sending me the *Great Giana Sisters*. I can't say my real name.

1. **Shouldn't that be 'but Clur has more personality than Simon'?**
2. **Sorry about that, but I wouldn't want you to make the same mistake in future.**
3. **Sexual attraction is nothing to be ashamed of. Especially when you're 47.**
4. **Keep an eye on Uncle Dave's Buy-a-rama (I think there's one there this month, actually).**

CALCULATOR HEAVEN

Please answer just a few of my questions, on mighty one.

1. Is there a cheat for *Mayhem in Monsterland*? I can get up to Cherryland (happy) but no further. Help.
2. What is the best racing game, in your valued opinion?
3. Have you given any other game apart from *MIM*, 100%, if so which?
4. Is there such a place as Silicon Heaven? If not, where do all the calculators go?

Oh, by the way. I think you're really sexy when you're angry.

Joanne Schofield

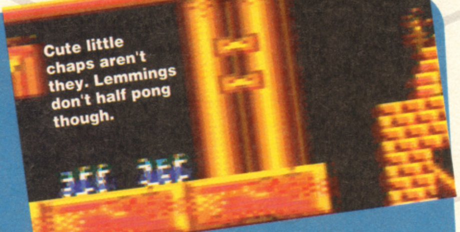
One wonders what an advanced alien civilisation would make of all this game playing business.

1. **Last month's CF contained a complete guide to the first two levels, and this month shows another two, so that should keep you going.**
2. **I hate them all.**
3. **Never – MIM is the first game in Western history to ever receive 100%.**
4. **Silicon heaven does, indeed, exist. If I were you, I'd worry more about your version (what would I want with a computer paradise, anyway?).**

8-BIT RENAISSANCE

Referring to your letter in the October issue of Commodore Format from Mark Thompson, I agree with you entirely about the thing about Speccy and Amstrad being not dead firstly because they're not dead, well the Speccy is not dead there are lots of fanzines out there (if any Speccy owners read this, send an SAE to me and I'll tell you about them as long as this TMB thing prints my address!) and secondly as all support for the forerunners of computing pass out of the lime light (ie the 8-bits) we all need to stick together to keep it going. *YS* is dead but as *Commodore Format*'s still here and it can keep 8-bit hopes alive, maybe an all 8-bits together page could go down well and support all the 8-bits. I also agree about consoles cost you a bit then they don't

PAINT A PICTURE



Cute little chaps aren't they. Lemmings don't half pong though.

Dear TMB,

1. Is *Lemmings* available? Can you recommend a mail order firm I can obtain it from (or is it better to buy it direct from Psygnosis?) Either way, please can you give me their address and the price of this funky platformer.
2. How can I use an *Action Replay MK vi* cartridge to transfer multiload programs from tape to disk so that they still function properly as a multiload?

3a. How does *Saracen Paint* have its files? For examples, *Image System* files must start with MS but can end with only 13 characters, *Advanced Art Studio* files can start with any 12 characters but must end with MP/C, etc.

3b. If I could change the file names to *Saracen Paint* format would files saved from any other graphic programs be suitable for loading into *Saracen Point*? If so, which ones?

AG McLellan, Folkestone

Lemmings
VOTED! BEST GAME OF THE YEAR BY INFO MAG USA AMIGA WORLD USA & EUROPEAN GAME OF THE YEAR
PSYGNOSIS

Is he saluting someone?

1. **We reviewed it last month, so find out from there.**
2. **You know, I'm not sure you can. Learn machine code instead – it's probably easier.**

3a. **Look, you – I'm a brain. That's just a little squidgy lump (impressive though it is) with no eyes; give me a break, will you?**

3b. **French salmon.**

have a keyboard to program it with (which is a bit thick if you ask me).

By the way, all those C64 owners who brag at the spectrum going under – what about the C64? I mean Commodore is not going to carry on supporting them for long with such wonders as the Amiga A1200 is it? One last thing, as well as the speccy and a few other oldish computers hanging around the place I have a C16, are there any user groups/Fanzines around for it? Any bits for it left around the market? If there is not any of these then I will start a fan or tapezine for the C16 for if there are any others who have C16s and want to help write to me a the address which TMB will type under here!! It better or else.

Christopher Thomson, St Pauls House, Bretch Hill, Banbury, Oxfordshire, OX16 0LR

PS: Tell the powers that be that they were thick at dumping YS and perhaps an all formats 8-bit mag should now come out!

Hmm... The whole issue of dying computers is pretty complicated if you ask me – just because you own a computer that isn't as popular as it once was, should you suffer having no new games?

The answer is, unfortunately, yes. If releasing software on the C64 isn't going to make any money, you can hardly expect the big corporations to do so – or do you want charity?

The whole 8-bit scene would be a bit weird if you got it all into just one mag, wouldn't it? The machines are all so totally different (there are six different types of Amstrad CPC for starters) that you couldn't possibly give each machine the proper attention it deserves.

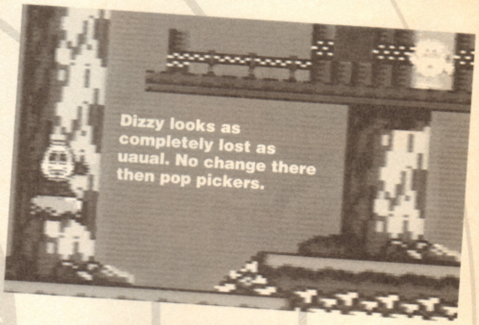
At the end of the day there will always be enthusiastic C64 owners out there, but unfortunately, they won't have any new games to play. *(Unless you lot program them - Hutch).*

DIZZY FAN

1. What game do you like better, *Fantasy World Dizzy* or *Treasure Island Dizzy*?
2. What is your best game on the C64 apart from the inevitable *Mayhem*?
3. Are there any dart games (for the C64 that is) that use the gun?
4. Will *Mayhem* come out on cart?
5. Are Brains cleverer than humans?
6. Who do you like best in *SF2*?

Andrew Cully

1. **They're all tedious wibble.**
2. **The second best ever computer game in my opinion is *Smash TV*.**
3. **Try taking a look at their ad.**
4. **I very much doubt it.**
5. **Look inside your head. There's a brain there, you see, because brains *are* the clever bits in humans. My old body just happened to be the most intelligent entity since the dawn of time.**
6. **Dahlsim – incredible mental powers, plus the ability to lash someone's head with his foot whilst standing on a completely different continent.**



Dizzy looks as completely lost as uaual. No change there then pop pickers.

NO CONSOLATION

After 5.5 years of owning a C64, I've got to confess that I've just been bought a Sega Megadrive. Yes, I know what you're thinking, "Those blimmin consoles are very expensive, with great graphics, but alas no gameplay!" Now to all you sticks in the mud I'd just like to say "Shut up you silly farts! You don't know what you're talking about". Thank you. Now I'd like to say how much I love your mag, but I must point out that sales and software released have fallen sharply. Even though most of us have stuck by our 64s through thick and thin, you've got to admit that the C64 is beginning to give way to the power of the 16-bit super powers. I know many people will react strongly against what I believe, but even you, oh mighty one, must admit that in as little as a year the 64 may be dead. But in the mean time I will carry on buying your mag and games for my trusty 64. After all the Megadrive games do get tiresome after 4 days solid play.

Neil Lewis, Finchfield

"Splundig vur thrigg 2000AD fans. Like my hairdo?"

We're not denying that you can get good games for console machines – feel free to rush out and buy one tomorrow, but please remember the other values of a programmable and more versatile machine (consoles are for games only), and give your C64 an airing once in a while.

ON THE MARKET

Your Soapbox (issue 38) is absolutely right. At the rate companies are pulling out of the 64 (and 8-bit) market, by this time next year, the C64 will indeed be 'underground'. It'll be up to the PD libraries, compilations, and budget re (no?)-releases to 'fan the dying embers of the 8-bit market' cliched terminology inc.). At the most I reckon the C64 has got three years. Right, sorry for being serious, there. In the time-honoured tradition, I've got some numbered questions for you.

1. Any chance of printing an *Exile* map or solution, oh grey one?
2. Half the games you review don't seem to

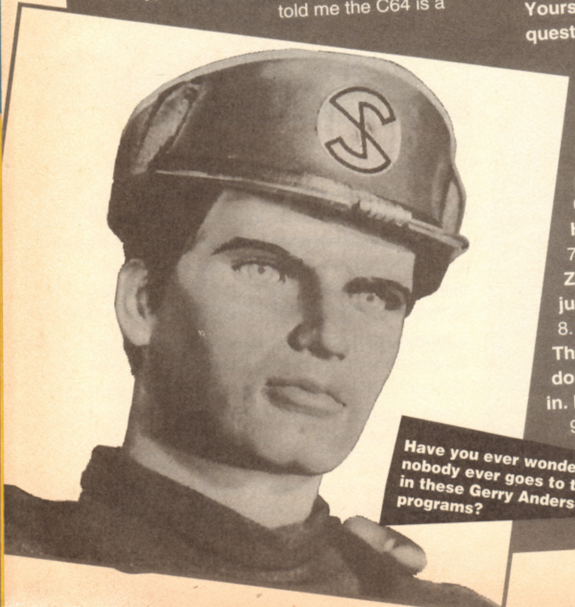
LONELY BRAIN

Hi there, I have got just a couple of questions for you so this won't take long (in earth time anyway).

1. Will there be a *Blues Brothers 2*?
2. Are you the only one of your species left, if not where are the others?
3. How many milliseconds does it take you to read the average letter?
4. I own three C64s do you think that's being greedy, or do you think I'm helping save the C64 from oblivion?
5. Have you ever met Tharg (Ed of 2000 AD)?
6. Was your old body humanoid or alien?
7. I wrote to Bad Influence once and they told me the C64 is a pre-war computer!!! Are they nuts or what?
8. Will *Captain Scarlet* ever have anyone program a game for him to appear in?
9. Could I have a signed photo oh please oh mighty brain of the whole universe, and any other dimension.

Stuart Crisp, Ipswich

1. **No**
2. **Yep – it's just me as always, the supreme knowledge of divine light...**
3. **There's no such thing as an average letter. Each one is individual in its own right. Yours, for instance, asks too many questions. Got that?**
4. **Well that all depends if you buy three times as many games for them, doesn't it.**
5. **Met him? He lives in the future. Right now, I'm matchmaking his parents. Dead ugly they are too.**
6. **My body's missing a brain, isn't it? How do you expect it to know that?**
7. **Well I dunno, really – the civil war on Zalzabar 7 – Subspace node 9 petered out just a few days ago...**
8. **Well, the game license for Thunderbirds appeared a while back, so I don't see why Captain Scarlet shouldn't join in. It's in the hands of the softies, now.**
9. **Being the only one of my kind and hailing you as I do from a parallel dimension this month, there's no-one to point the camera.**



Have you ever wondered why nobody ever goes to the toilet in these Gerry Anderson programs?

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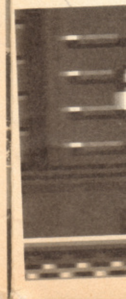


get released. What about *Liverpool*? *Graham Souness International Soccer*?

3. Is it just me or is the magazine actually less funny than it used to be?

4. Who, in you opinion, should replace England manager Graham Taylor?

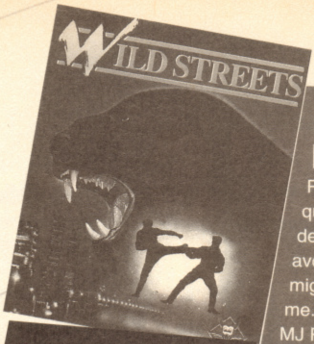
Ok. That's all. Oh, my top five games are:

1. *Microprose Soccer*
2. *Exile*
3. *Italy 1990*
4. *Creatures*
5. *Elite*

Harvey Davidson, Titan, Saturn

Aaah, Titan – I was there only a while back. Oh, I'd agree with you on the whole diminishing market argument, but you have to remember that the C64 has had a good run for it's money, and an underground scene will still be a lively one. Anyway:

1. **I'll ask that Roberts chappy.**
2. **Sometimes you'll be reading a CF review before the game has even hit the shelves, and sometimes release plans get scrapped at the last minute. These things happen.**
3. **Maybe it's just going in a different direction that you're not keen on. Maybe you just don't get any of the jokes.**
4. **Well that's simple – me. It's quite unfortunate, though, that I now despise football utterly and completely.**



Big teeth aren't they.

POOR DEPRESSED FANATIC

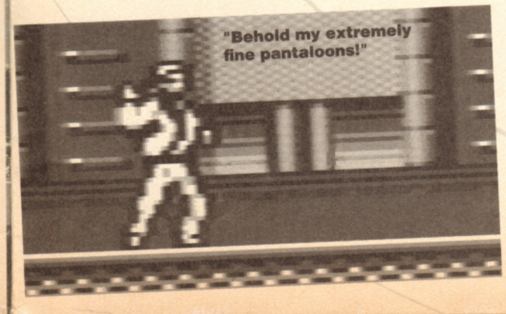
Please help this poor depressed 11 year old Commodore fanatic!!

1. My mum said I could choose a C64 game instead of fireworks so off we went to the Virgin store in Bradford to choose one. I had read your review on *Shadow Dancer* (Commodore Format 33) and decided on that one. They only had it boxed at £7.99 and I told them that you had said it is now on budget because my mum has not got a lot of money. They said they would order it. When my mum went back (one week later) they told her that they couldn't get it on budget because there wasn't any interest in Commodore computers now. Anyway, my mum bought it (full price). Are Commodore going out of business? I hope not.

2. Could you give me a keyboard cheat (not listing) for *Shadow Dancer*, Oh great Brain?

Matthew Catto, Bradford-Buttershaw

1. **Commodore are most definitely not going bust, what with the storming success of its Amiga machines. What actually happened was that your computer shop couldn't have looked very hard on your behalf – try again at a slightly larger chain store.**
2. **Erm... Andy?**



"Behold my extremely fine pantaloons!"

AVOCADO EATER

P-P-Please answer my questions or I might go demented and eat a rubber avocado and in this state I might buy a me-me-me.....megadrive! Anyway, like MJ Richards I'm going to 'unusual item' my questions.

Gibbon - Recently I saw a copy of Electronic Arts' *Space Hulk* for PC. Does Electronic Arts have any plans for releasing it on our beloved machine?

Tin of Spam - Is Titus' *Wild Streets* worth the box it comes in?

Belt buckle - Are you friends with God?

Blunt Chainsaw - I am going to give some software houses a mark out of ten to show you what I think of them.

Ocean - 5
System 3 - 10
The Apex Boys - 10
Virgin - 7
Psygnosis - 9

I'll also give you my fave music.

1. *Ace of Spades* - Motorhead
2. *Boom Shake the Room* - Fresh Prince and Jazzy Jeff
3. *Living on My Own* - Queen
4. *Bohemian Rhapsody* - Queen
5. *Cats in the Cradle* - Ugly Kid Joe

Banana Flan - Is there any beat'-em-up in which after you kill a blokey he stays on the ground with life juices pouring from him until your character snuffs it? If there is, what is it?

Volvo - Don't you think that *Altered Beast* is as exciting as watching a rock, glued to the ground, run a marathon?

Anyway I have written enough so until next time, bye you big old blob.

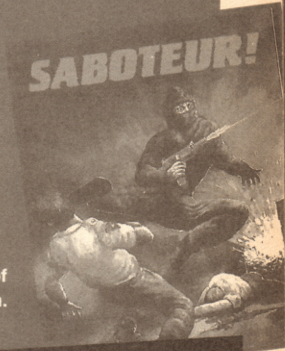
Malcolm Baptie, Edinburgh

PS: My congratulations to Clur and Simon on their interest in gore and violence. For a while I thought I was the only one... (sigh).

Firstly, I'll answer your questions:

Gibbon – **No**
Spam – **Expensive box, huh?**
Belt buckle – **What god?**
Blunt chainsaw – **Oh.**
Banana flan – **That'll be Saboteur, then.**
Volvo – **On the contrary, nothing beats the pure adrenaline excitement of rock against mud action.**

From reading you're choice of unusual items, I see that you're a slightly short person who often dreams of floating on a sea of solid cheese whilst singing the greens. I'm thinking of taking up psychology, y'know.



Lovely artwork isn't it?

SOFTWARE SEARCH

Up until May 1992, the most extensive C64 accessories and software mail-order service was provided by *FSSL* of Pershore, Worcestershire, who latterly changed their name to USA Direct. They then ceased trading and their stock was taken over by *DTBS* in Rochdale who, I understand, also ceased trading early this year.

The C64 stock held by these firms was very comprehensive, and I wondered if another company had taken it on. I am particularly interested in obtaining the Printmaster disks, the 1750 REU, and both the servicing manual and pens for the 1520 printer-plotter.

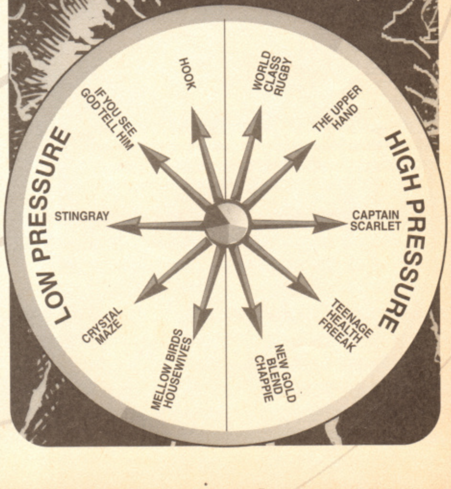
Brian McGill, Nottingham

Oh...

But seriously folks and folkettes, Simon's written a jolly useful feature (you can find it on page 30) on just this kind of problem. As the major chains insist on stocking only console titles, in preference to computer programs, it's getting harder and harder to get the titles you want. The feature explains where to get your software, what to look out for and how to contain your enthusiasm while you're waiting for it to load. Hutch tells me that he's thinking of setting up a kind of Swap Shop add-on to Uncle Dave's in which all you gamesters can write in swap your games for a title you don't own. Watch this space.

THE MIGHTY BAROMETER

This is the Mighty Brain's very own indicator of what's hot and what's not in C64 land and the world at large. Anything on the High Pressure side is hot, anything in the low pressure smells of wee-wee and eats crab paste sandwiches. If you disagree with any of these write and tell us.



UNCLE DAVE'S BUY-A-RAMA

FOR SALE

More hot and funky bargains for all you car boot sale fans. For sale, wanted, pen friends and even the odd red herring. It's the real life drama of a bazaar...

WANTED

- **Has anyone** got a copy of *C64* Powerpack and Datasette plus games inc. speech synthesizer, sound sampler and 3D construction kit. Will Pay reasonable price. Write to Stuart Bryson, 12 St Monance Place, St Marys, Dundee DD3 9LF

- **50 Games For sale** worth £100 inc. Robocop 2 & WWF. The lot for £50 or may split. Call Luke on 0925 820483.

"Alright who farted? Hold on while I smell each of your bottoms individually..."*

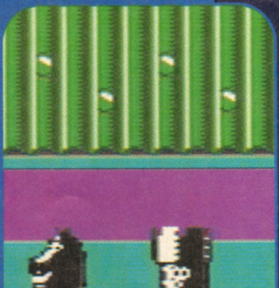
* We apologise for the rather pervy nature of this caption.

- ***Working*** copies of Paradroid by Hewson and Defender of the Crown by Mirrorsoft. Will pay £10 each for C64 disk versions. Phone Richard on 021 378 5582 After Five o'clock.
- **Does anyone** have a utility called Stop Press, the DTP package. Write to R Davies, 178 Offmore Road, Kidderminster.
- **Wanted, *C64*** games : Kennedy Approach by Microprose cassette or disk and Gunship by Microprose on disk.Mr Saunders, Tel: 0533 899428.
- **Great Diana Sisters** on a compilation disk. Someone phoned up about it when I put an advert in about 3 months ago. Please phone back. Tel: 0821 650409. As I now have a disk drive.
- **An Action Replay** cartridge version 1 for my C64. Will pay reasonable price. Please phone Steve on 0636 640853 after 4pm Monday to Thursday. Cheers.
- **Oi tosh!** Wanted Action Replay Cart. for my C64, must be in good nick with instructions. Will play reasonable price. Call Dave on 0284 702473.
- ***Lazer Squad***, tape or disk will pay £5, Airbourne Ranger disk will pay £5. Send details to 5 Sewell, 81 Aappell Lane, Stanstead Abbotts, Herts, SG12 8DA.
- **Disk Version** of Gunship. Also wanted Speedbal 2 on disk if possible. Must be in good condition. Will pay full price and postage. Contact John Conlon, 23 Whitechurch Way, Ballyboden, Dublin 16, Eire.

FOR SALE

- **C64 with** tape deck, Action Replay cartridge, joystick, gun and many games £60. Tel: 081 748 0479
- ***Mouse & OCP*** advanced art package, £20 ono or will swap for games. Call Russell on 0286 872248.
- **50 C64 games** some without cassette cases or inlays. £10 the lot. Tel: 0453 544428 evenings.
- **SuperScript** on diskfor C64. £20 only. Contact Tony on 0595 85368Sunday nights or at 4 Huilsidale, Hamnavoe, Burra, Shetland, ZE2 9LF. May swap for other stuff.
- **Games GAlore!** Disk games including Last Ninja 3, Sim City, Vendetta, 3D Kit. On tape: Robocmash TV, Retrograde, Turrican, Iron Man, Speedball 2, Myth. Phone Rory on 05395 36409.

- **James Pond 2** Codename Robocod. Boxed with instructions £8 ono. Telephone 0263 720694 at Weekends and ask for Rebecca Barker.



Want to be a gill-seeker? Buy Robocod off Rebecca.

PEN PALS

- **Are you** a 16/17 year old boy who totally loves playing with computers? If you are, write to Mary Rodriguez, 24 Hirst Gardens, Dykehead, Shotts, Scotland, ML7 4EL.
- **Looking for** penpals in France? Scotland? England? Ireland? Guaranteed reply within 20 days! Write for info to Jon, 69 Bruce Street, Leicester, LE3 0AG.
- **Penpals wanted** to swap demos and disk mags. Please include a list of all your programs. Write to Edwin De Nys, Petteveltlaan 7, 1974 SR Gmuiden, Netherlands..
- **Penpal wanted** I'm 13 years old and into music and computers. Write to Gareth Folwell, 1 Poppy Field Close, St Mellons, Cardiff, Wales, CF3 0BD.
- **C64 user** seeking a male 11-12 years old to exchange tips and programs and to chat. Write to Jon Metcalfe, 128 Manor Grove, Cockfield, B.P.Auckland, CO Durham.

- **For sale:** Commodore Formats i5-37 (all with tapes). Write to James Cleal, 22 Millstream Close, Whitstable, Kent, CT5 1RG.

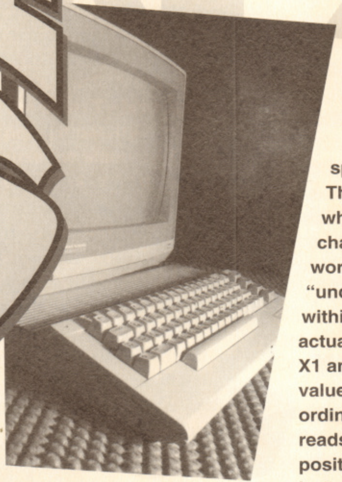
COMMODORE FORMAT
POWER PACK
BOOM!
COMMODORE FORMAT
POWER PACK

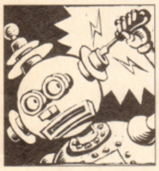
Absolutely top quality magazines, these.

- **Why not** swap your stale games with me for fresh ones? Cassette only. Write now to Alan Lancaster, 217 Gaunt Road, Gleadless, Sheffield, S14 1GP.
- **Pen Pal** wanted to swap games and cheats. If that sound like fun write to Ryan Turnill, 132 Timberleys, Littlehampton, W.Sussex, BN17 6QF.
- **Calling Adventurers** I'd like to get in touch with adventuring pen pals to exchange tips, solutions. I also need G.A.C. not the tape but the instruction book on how to use the program.
- **Wanted** all hints and tips for C64 games and some pen pals as well. Write right now to Jeremy Butler PO Box 1203, MI Gambier, SA5290, Australia.
- **Female** penpal wanted. Must own a C64, Datasette and be between 10 & 12 years old. Preferably from Northern or Southern Ireland. Write to Gavin Ginles (that's pronounced jingles), Carnaross, Kells, Co.Meath, Ireland. Oh yes and I'm 11 years old.
- **CF Staff Writer** seeks interesting people to hang out with and possibly even kiss. Must have sense of humour and bad taste in music. Write to Simon F. courtesy of the Commodore Format office.

TECHIE TIPS

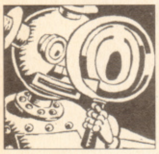
Do you move with the times? Do you demand performance from your active liposones? Cheesed off with hydration? Jason Finch isn't, he's discovered the secret of the gel-based microsphere. Or something...





HERE'S ONE I MADE EARLIER!

Don't forget that the listings in Techie Tips can now also be found on the Power Pack, cunningly concealed within the Techie Tips Proggy Selector. No more typing in reams and reams of DATA statements. What's more, this month I've added a couple of classics from past issues for you. There's CREATURE COMFORTS from CF25 and APEX APPEAL from CF31 - both were really long listings and some of you may have fainted at the very thought of all that typing. I know I nearly did when somebody mentioned it might be a good idea to repeat them.



LOOK TO THE STARS

Dear Techie Tips,

I have recently acquired a STAR LC10C colour printer for my Commodore 64. I have been having a few problems with it.

1 I have been able to print short sentences using the command PRINT#4,"...text..." but I cannot print any longer sentences. I have tried writing it like a program and listing it on the printer and that works. How else could I do it?

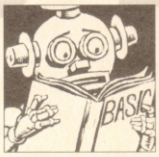
2 I have got the *Advanced Art Studio* but I cannot print out colour pictures. Please could you tell me the codes for the printer configuration that allows me to do so.

Reece Lippolis, Sheffield.

1 **In order to print longer lines, simply add a semi-colon to the end of the command. In that way the printer will not do a carriage return once it has printed your line. You can then join short lines end-to-end to make longer lines. When you are ready to start a new line just drop the semi-colon. This short example should prove the point.**

```
10 OPEN 4,4
20 PRINT#4,"COMMODORE FOR";
30 PRINT#4,"MAT'S TECH";
40 PRINT#4,"IE TIPS!!"
50 CLOSE 4
```

2 **I assume you mean you can't print the pictures in colour and not that you can't print at all. To actually print colour pictures in colour is quite complicated and it needs a special piece of machine code to work out which of the colours on the ribbon to combine and when, so that the right bits of the picture are in the right colours. The *Advanced Art Studio* may well be advanced, but it is not advanced enough to include a colour printer driver, which is what you need. Datel (☎0782 744707) advertise a piece of software that prints out colour pictures in colour. You could try contacting them.**



IN COLLISION

Dear Techie Tips,

1 Could you please list a program that detects collision between the main character of a game (sprites 0,1,2 and 3 in my game) and the background, and detects the background character that they are all in touch with?

2 Feel free to print some of the small routines that I have enclosed.

James Stewart, Perth, Australia.

1 **The following program will set up a sprite and then move it from left to right across the screen, detecting the characters that it collides with on the way. If your main sprite is actually made up of four separate ones it makes no difference, you only need to check if one of the sprites is in collision with the background. The variables DX and DY in line 160 govern which bit of the sprite it looks at to find the character it is in collision with. In other words, it currently looks at the character "under" the pixel with co-ordinates (8,10) within the sprite block. Line 260 stores the actual X and Y position of the sprite in variables X1 and Y1, and line 270 then converts these values into the right range for screen co-ordinates: 0-39 for X1 and 0-24 for Y1. Line 280 reads in the character at the appropriate position and, for this example, displays it in the bottom right corner of the screen.**

```
100 REM COLLISION DETECTOR BY J.FINCH
110 FOR X=0 TO 36 STEP 18:FOR Y=0 TO
8:POKE 832+X+Y,240:NEXT Y,X
120 FOR X=9 TO 45 STEP 18:FOR Y=0 TO
8:POKE 832+X+Y,15 :NEXT Y,X
130 FOR X=0 TO 20:POKE 834+X*3,0:NEXT X
140 POKE 53271,0:POKE 53277,0
150 POKE 53249,70:POKE 2040,13
160 POKE 53269,1:X=32:DX=8:DY=10
170 PRINT CHR$(147);CHR$(17);CHR$(17)
180 PRINT " C O L L I S I O N"
190 POKE 53248,XAND255:POKE 53264,X/256
200 C=PEEK(53279):REM READ REGISTER
210 IF (C AND 1)=1 THEN GOSUB 260
220 X=X+2:IF X<320 THEN 190
230 END
240 :
250 REM COLLISION DETECTED
260
X1=PEEK(53248)+(PEEK(53264)AND1)*256:Y1=P
EEK(53249)
270 X1=INT((X1+DX-24)/8):Y1=INT((Y1+DY-
50)/8)
280 P=PEEK(1024+Y1*40+X1):POKE
2023,P:POKE 56295,1
290 C=PEEK(53279):REM READ REGISTER AGAIN
TO CLEAR IT
300 RETURN
```

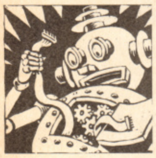
2 **Thanks very much. I've extracted a couple that disk users will find useful. This first one detects whether or not a disk is in the drive before continuing. It works in such a way that it won't continue until you remove the disk but you could easily change it so that it sits there waiting for one to be inserted.**

```
10 REM DISK DETECTOR BY J.STEWART
20 OPEN 15,8,15
30 PRINT#15,"M-R";CHR$(30);CHR$(0)
```

```
40 GET#15,A$
50 IF ASC(A$+CHR$(0)) THEN 30
60 CLOSE 15
```

The second of James' routines uses the write protect sensor to check whether or not the drive can write to the disk. This could be useful in a disk copying program where you don't want to write to the source disk by mistake - if the disk is not write protected you can tell the user it would be best to ensure that it is.

```
10 REM WRITE PROTECT TEST BY J.STEWART
20 OPEN 15,8,15
30 PRINT#15,"M-R";CHR$(30);CHR$(0)
40 GET#15,A$
50 CLOSE 15
60 IF ASC(A$+CHR$(1))=1 THEN PRINT "DISK
IS WRITE PROTECTED":GOTO 80
70 PRINT "DISK IS NOT WRITE PROTECTED"
80 END
```



THE ONLY WAY IS UP

Dear Techie Tips,

1 How do I change the character font on the C64?

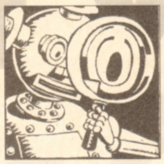
2 How do I smooth scroll text up the screen?

George Bundy, Caithness.

1 A future Dr Finch's Casebook will look at making up your own character sets; it is beyond the scope of a short answer. To switch to a new character set you do POKE 53272,X where X is a number that tells the computer where you want to get your character set information from. But so far as defining that information is concerned, hold on for a couple of months or so.

2 Smooth scrolling text up the screen can be far more difficult than scrolling it across. For a start, the flicker that occurs from Basic is pretty horrendous in comparison. Of course, in machine code that can be overcome, but I'll give you this Basic version to be getting on with.

```
100 REM BASIC UPWARD SCROLL BY
J.FINCH
110 Y$=CHR$(19)
120 FOR Y=1 TO
24:Y$=Y$+CHR$(17):NEXT Y
130 POKE 53265,PEEK(53265)AND247
140 N=N+1:A$="LINE"+STR$(N)
150 GOSUB 180
160 GOTO 140
170 :
180 REM ROUGH SCROLL
190 PRINT:PRINT Y$;A$;
200 FOR Y=7 TO 0 STEP-1
210 REM DO THE SMOOTH PIXEL SCROLL
220 POKE 53265,(PEEK(53265)AND248)OR Y
230 FOR T=1 TO 200:NEXT T
240 NEXT Y
250 RETURN
```



LIVING APART

Dear Techie Tips,

I am writing a program but have come up with the problem that it is getting too long for the computer's memory. Therefore I have to split the program into two separate parts. However, at the start of the first program I assign many strings. Now, here comes the difficult bit: is there any way I can assign strings and keep them in memory after loading the second part of the program?

N.Cole, Devon.

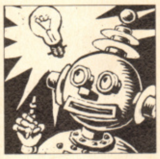
Unfortunately, one of the first things the LOAD command does when it has finished loading a program is to clear out all variables. So, using the standard LOAD command there is no way that you can keep your strings. One way you could do it is to POKE all the information into memory before the LOAD and then PEEK it all back after the LOAD. The following bit of a program will write whatever is in A$ to a part of the RAM that is not affected by a LOAD command.

```
10 POKE 49152,LEN(A$)
20 FOR X=1 TO LEN(A$)
30 POKE 49152+X,ASC(MID$(A$,X,1))
40 NEXT X
```

Your second program could read that information back into its version of A$ using a similar bit of code:

```
10 FOR X=1 TO PEEK(49152)
   20 A$=A$+CHR$(PEEK(49152+X))
     30 NEXT X
```

That will take an awful long time if you have lots of string variables to contend with, though it is by far the most reliable method. You could play about with the variable pointers but the chances are that some of your strings will be corrupted. ***(You know I hate it when my strings get corrupted. That's why I use Aeriel Colour. It's good without the boil wash - Hutch)***



RESTORE DETECTIVE

Dear Techie Tips,

Have you got a routine stashed somewhere that will allow me to use the RESTORE command in such a way that I can RESTORE to any DATA line in a program? At the moment I'm having to read through loads of useless numbers just to get to the bit of information I want.

John Maple, Bangor.

There are a number of ways to do what you want. The easiest to use involves a very short piece of machine code which is capable of RESTOREing to absolutely any DATA line, whether you tell it directly, have the number stored in a variable, or want to calculate it using some formula or other. Here are some example of how you might use the new RESTORE routine:

```
SYS 49152,1000
SYS 49152,L
SYS 49152,500+A*10
```

And here's the Basic loader for the 22 byte machine code routine that does the business:

NFORMATION BANK

PUBLIC SECTOR

Dear Techie Tips,

Could you please give me a machine code routine that reads information from any track and sector on a disk? I have been trying for weeks and weeks to work it out but nothing seems to work. I have been approaching it from a sort of straight conversion of the Basic method into assembly language but it's having none of it. Please stop me pulling my hair out and put me out of my misery.

Chris Roberts, Peterborough.

The Basic loader below creates a machine code program which uses ROM routines to send messages to the drive and uses the command "U1:2 0 18 01" to request the information on track 18, sector 1. It will then store that information at $CF00-$CFFF inclusive. To change the sector that it reads, change the ASCII codes for the 18 and 01 - the 049,056 and 048,049 of lines 31 and 32. The Techie Tips Proggy Selector houses an assembly language version of this Basic loader:

```
10 REM SECTOR READER BY J.FINCH
11 FOR X=49152 TO 49265:READ
Y:C=C+Y:POKE X,Y:NEXT X
12 IF C<>13822 THEN PRINT "DATA
ERROR":END
13 PRINT "THE CODE AT $C000 WILL READ"
14 PRINT "TRACK 18, SECTOR 1 OF A DISK"
15 PRINT "IN DEVICE 8 AND STORE THE"
16 PRINT "INFO UP AT $CF00"
17 :
18 DATA 169,002,162,098,160,192,032,189
19 DATA 255,169,015,162,008,160,015,032
20 DATA 186,255,032,192,255,176,066,169
21 DATA 001,162,100,160,192,032,189,255
22 DATA 169,002,162,008,160,002,032,186
23 DATA 255,032,192,255,162,015,032,201
24 DATA 255,169,101,160,192,032,030,171
25 DATA 032,181,171,162,002,032,198,255
26 DATA 160,000,032,207,255,153,000,207
27 DATA 200,208,247,169,002,032,195,255
28 DATA 169,015,032,195,255,032,204,255
29 DATA 096,169,015,032,195,255,032,204
30 DATA 255,096,073,048,035,085,049,058
31 DATA 050,032,048,032,049,056,032,048
32 DATA 049,000
```

QUICK SHOTS

Is it possible to make the letter keys "repeat" like the space bar and cursor keys do?
Stuart Manning, Southend.

POKE 650,128 will make all the keys on the keyboard behave like the space bar normally does. POKE 650,0 will put it back to normal and POKE 650,64 will turn the repeat function off completely.

Here's a few SEUCK questions for my favourite section in Commodore Format: How do I include pictures, music, sprites and options on the title screen? I have an Action Replay but I am no good at machine code so could you please explain step-by-step.
Mark Preston, Wakefield.

It would be impossible for me to explain the step-by-step instructions in Techie Tips. I have seen utilities that add music to the title screens of SEUCK games, but nothing that does the others. It would require the writing of quite a large full utility in order to do that stuff.

Could you please tell me where I can get hold of a lead that will enable me to connect my C128 to my Scart TV? Also, could you please tell me from where I can obtain pens and paper for a Commodore 1520 printer/plotter?
John Williams, Nottingham.

Meedmore Ltd. in Merseyside (☎051 521 2202) will help you with the Scart TV lead, and possibly also the pens. If not, try a local Tandys store because the standard Tandy plotter uses very similar pens and paper.

I have just bought a 1571 disk drive but the user manual that came with it is for a 1570. I have found references in places to the 1541, 1551, 1581, 2031 and 4040 drives but never a 1570. Now the 1570 is obviously different from a 1571 so from where can I get a proper manual for it?
Steven Curtess, London.

I'm not sure what it is that makes you say the 1570 is obviously different from a 1571 because they are, in fact, practically the same drive. A 1571 manual actually says "1570/71 User Manual" on the front. There are very few differences.

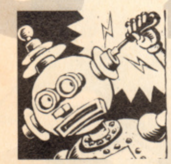
When and how did you start programming the C64? Do you have any qualifications in programming or did you just learn from scratch?
Peter Evans, Manchester.

Oooh now let me think, it must have been somewhere around 1985. I learned through experimentation, playing about with the commands and changing Basic programs written by other people to see what effect the changes had. The only qualification to do with programming is a degree (with any luck) in Computer Science, but obviously that's not exactly got much to do with programming the C64.

Have you got an address for Neos because I would like to get hold of the instructions for "Neos Mouse and Cheese"?
Andrew Meredith, Bradford.

The only address for Neos that I have is Neos Europe, 26 Wycombe Road, London. That may well be out of date by now. The instructions for Mouse and Cheese won't really help you a great deal because they're only two sheets of paper. *(But Jason, that's what they said about the American Declaration of Independance - Hutch)* Just have a good play about with all the options, seeing what happens.

```
0 REM VARIABLE RESTORE BY J.FINCH
1 FOR X=49152 TO 49173:READ Y:C=C+Y:POKE
X,Y:NEXT X
2 IF C<>2404 THEN PRINT "DATA ERROR":END
3 PRINT "TO RESTORE TO ANY DATA LINE
ENTER"
4 PRINT "SYS 49152,LINE"
5 :
6 DATA 032,014,226,032,158,173,032,247
7 DATA 183,032,019,166,056,165,095,233
8 DATA 001,164,096,076,036,168
9 REMARKABLY ODD WEATHER THIS HOUR
```

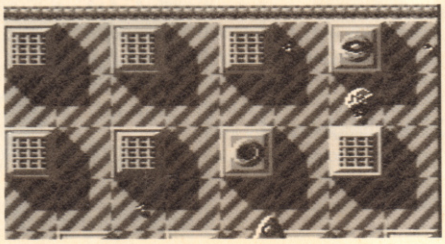


THERMAL IMAGING

Dear Techie Tips,
I have designed this neat picture of an icy landscape using The Image System. I did it because I want a good title screen for a program I am writing. The only problem is that I have got no idea how to display the picture from my own program. I would be very grateful if you could list a routine that loads (from disk preferably) and displays an Image System picture.
Gary Pavis, Loughborough.

The following program has been adapted from the one that appears on page 12 of my Image System manual. Don't you have a copy?

```
100 REM IMAGE SYSTEM VIEWER BY J.FINCH
110 A=A+1:IF A=2 THEN 240
120 PRINT CHR$(147)
130 INPUT "ENTER NAME OF PICTURE FILE";A$
140 PRINT:PRINT "IS IT HI-RES OR
MULTICOLOUR? (H/M)"
150 POKE 198,0:T=0
160 GET Z$:IF Z$="M" THEN T=1
170 IF Z$<>"H" AND Z$<>"M" THEN 160
180 OPEN 2,8,0,A$:CLOSE 2
190 OPEN 15,8,15:INPUT#15,E,E$:CLOSE 15
200 IF E=0 THEN LOAD A$,8,1
210 PRINT "DISK ERROR:";E$:END
220 :
230 REM COMES HERE AFTER LOADING PIC
240 IF T=1 THEN 330
250 :
260 REM HIGH RESOLUTION
270 POKE 53270,200:POKE 53272,128
280 POKE 53265,59:POKE 56576,150
290 POKE 53280,0
300 GOTO 390
310 :
320 REM MULTICOLOUR
330 POKE 53270,216:POKE 53272,128
340 POKE 53265,59:POKE 56576,150
350 POKE 53280,0
360 FOR C=0 TO 999:POKE
55296+C,PEEK(15360+C):NEXT
370 :
380 REM WAIT FOR KEY
390 POKE 198,0:WAIT 198,1:POKE 198,0
400 POKE 53272,21:POKE 53265,27
410 POKE 53270,200:POKE
56576,151
420 PRINT CHR$(147)
```



Get to know SEUCK intimately and you can create loads of funky, ermm, shoot-'em-ups.

GOT A PROBLEM?

Jason Finch is more than willing to answer all your technical problemettes, so if you're codes in disarray, you've plugged the wrong widget into the jubilee clip or you're having probs getting hold of that rare first edition write to him at Techie Tips, *Commodore Format*, 30 Monmouth Street, Bath, Avon, BA1 2BW. Please remember that Jason *cannot* reply to any letters personally, so please don't include a self addressed envelope. This boxout has been brought to you by Prontaprint: *We're the biggest copycats in town.*

DR FINCH'S CASEBOOK

What do you know of the mysteries of chess? Ever gazed beyond the barrier of the keyboard to the secrets within? Jason Finch has and he's got this daring report...

During those times of stress, like while you are waiting for *Mayhem in Monsterland* to load, it is often difficult to think of things to do. In case you've never been bored enough in such situations to count the number of keys on the keyboard, I'll tell you that there are in fact sixty-six; that includes the SHIFT keys, the Commodore and CTRL keys, the function keys and RESTORE. The question is: how can you tell which are being pressed, apart from looking at your fingers?

A GAME OF CHESS

Fifty times a second your computer checks which keys are pressed; it's called scanning, reading or polling the keyboard. It does this by using a grid. Your C64's keys are mapped out into a kind of chess board, with each square representing a particular key. Hang on though, a chess board has only 64 squares and the pooter has 66 keys. Well, if you con yourself into ignoring RESTORE and forgetting about SHIFT LOCK then it's only got 64. Convenient, huh? Codes between 0 and 63 are given to each key, with 64 indicating that no key has been pressed.

	1	2	4	8	16	32	64	128
1	INST DEL	RETN	CRSR RIGHT	F7	F1	F3	F5	CRSR RIGHT
2	3	W	A	Z	Z	S	E	SHIFT LEFT
4	5	R	D	6	C	F	T	X
8	7	Y	G	8	B	H	U	V
16	9	1	J	O	M	K	O	N
32	+	P	L	-	.	:	@	,
64	£	*	;	CLR HOME	RIGHT SHIFT	=	▲	/
128	1	◄	CTRL	2	SPACE	CBM	Q	RUN STOP

This is how your C64 works out which key is being pressed at any given moment in time.

CRACKING THE CODE

Locations 56320 and 56321 don't just figure out what you are doing with the joysticks, they also control keyboard scanning. Specimen A shows how the keys are laid out in the grid. Notice how the numbers along the top and down the side correspond to the good old money bags of CF38! Yes indeedy, binary comes into it. All bits at location 56320 are normally set to one (all the balls are in their boxes at address 56320). To check for a particular key you remove the ball corresponding to the row on which the key lies.

By taking away one of the balls, you tell the computer to look at the eight keys in that line of the grid. It looks and then responds by rearranging the balls at location 56321. It shoves all the balls in place and then takes out the ones that correspond to the pressed keys. So if you want to find out which key is pressed you indulge in a miniature conversation with the computer. Don't worry about how the computer actually works out which keys are being pressed; I don't expect you to be an electronics expert as well as a pretty face.

You must ensure that the computer isn't dithering over something else while you want it to check the keys for you. You do a POKE 56334,0 first so that you have its undivided attention. A simple POKE 56334,1 when you are through will let it get on with the rest of its duties.

HANDS-ON EXPERIENCE

The theory is all very well, but it is always better if you can get in there and get your hands dirty with the practice. Unless you've sorted binary out, got to grips with the balls and boxes theory, and sussed out the role that the AND command plays in all our lives, putting the theory into practice is going to prove a teensy bit difficult. Never fear because within the Techie Tips Proggy Selector is a program called THE SCANNER, showing you exactly how to read the keyboard using this method. You press down a key and then get your fingers on the other keys before it starts scanning. After the very quick scanning process, it draws up a table.

Occasionally, if you press too many keys, it will give a false reading, but that's only because it's getting annoyed. The idea is not for you to make strange contortions trying to get every single key down - the idea is for you to stop the program and list it; best done after it has drawn the table.

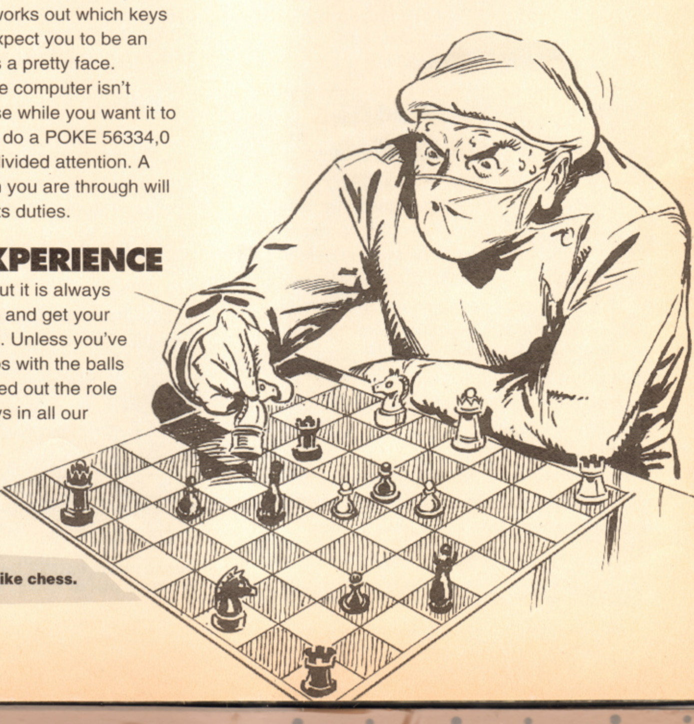
Lines 220-240 do the actual scanning of the rows, storing the values chucked back into 56321 in the array S(R). The break-down of each column within each row is then dealt with by lines 280-330, line 310 doing the all-important AND.

ALTERNATIVE MEDICINE

Another way to read the keyboard is location 197 which holds the code for the key which was last pressed. The problem? It only tells you which ONE key was pressed, so if you hold down a few your program won't be able to work out what they all are. If you do a PRINT PEEK(197) you will see the value stored. Flick back a page or so and look at the keyboard map that goes with the letter THE KEY TO SUCCESS in this month's Techie Tips - it gives all the PEEK(197) codes for the keyboard.

THAT'S YER LOT

With that information, the diagram and the program, you should be able to write programs that need to check for more than one key being pressed at a time. The Information Bank of CF34's Techie Tips will show you how the grid theory can be used to check for specific keys.



Think of your 64's keymap like chess.

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C64 System Guide (Programming)	£9.99
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Hey you! (Who me?) Yes you! Check this out...

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MR PLEXOR

Paul Black's back with the second part of his sprite multiplexing feature. All you codeheads, read on...

Last month we started off by talking about the mechanics of multiplexing sprites. This time round I'd like to continue with my sprite movement program by talking about insertions, collisions and burping.

Insertion is done by first checking that sprites are in the display area, if so, generating a hash code and attempting to insert at that indexed location. As mentioned earlier, collisions can occur, this is tackled using a simple 'back-off' technique.

The previous diagram shows (1) a collision where sprite ID #1 attempts to overwrite ID #0, a collision occurs and, (2) a successful insertion is achieved testing another slot in the table directly above the first.

```
         LDX #NUMSPTS-1
RESV1    LDA SPTENB,X        ;SPT ENABLED
         BEQ RESV2           ;NO BRANCH
         LDA SPTY,X          ;CHECK VIEW
         CMP #30             ;RANGE, TOP
         BCC RESV2           ;TOO FAR
         CMP #254            ;& BOTTOM
         BCS RESV2           ;TOO LOW
         LSR A               ;HASH KEY
         LSR A               ;(DIV BY 4)
         TAY
RESV3    LDA SPTABLE,Y       ;CHECK FOR
         BMI RESV4           ;COLLISION
         DEY                 ;BACK OFF
         BPL RESV3           ;NOT TOP
         BMI RESV2           ;HIT TOP
RESV4    TXA                 ;GET SPT ID
         INC NUMSPTAB        ;UPDATE NOS
         STA SPTABLE,Y       ;STORE SPT ID
RESV2    DEX                 ;NEXT SPRITE
         BPL RESV1           ;DO ALL 32
         ;
         LDX #$07            ;SET FIRST
         STX MUXSPT          ;TO USE
         LDY #$40            ;OFFSET Y
         LDA NUMSPTAB        ;CHECK RESV
         BEQ SET8END         ;NONE, END
```

When the sprites have been sorted into ascending display order the next job is to display sprites that are visible. The source above first assigns the MUXSPT variable to the first sprite in the list. This variable keeps track of the current 'plexed sprite. No 7 is the first (it's actually the 8th sprite, but it's more efficient to start at the top and work down). Next a quick test ensures that there's something in the hash table to display, if not the routine has nothing to do and just quits - dead easy. But, it's never that easy, so the next loop scans the table and positions the first eight. Any that are left over are dealt with straight after, by pushing each sprite on the 'plexors' stack and setting a raster interrupt further down the screen just after the 21st row of the first sprite displayed.

```
SET8SPR  LDA SPTABLE-$40,Y
         BPL SET8A           ;FOUND SPT
         INV                 ;NEXT ITEM
         BPL SET8SPR         ;DO ALL
SET8END  JMP SET8KILL        ;END ISR
         ;
SET8A    STY MUXTEMP0        ;SAVE INDEX
         ;
         TAY                 ;SPRITE INDEX
         LDA SPTX,Y          ;PUSH COORD
         PHA                 ;& PULL
         LDA SPTY,Y          ;BACK LATER
         PHA                 ;W/ VIC AD.
         ;
         LDA SPTPTR,Y        ;SET SHAPE
         STA SCREEN+SPRPTR,X
         LDA SPTCTRL,Y       ;COLOUR
         STA $D027,X         ;VIC COLOUR
         STA MUXTEMP1        ;STORE IT
         AND #32             ;PRIORITY
         BEQ SET8D           ;SPR BRCH
         LDA $D01B
```

```
                 ORA SETBIT,X        ;BIT ON
                 STA $D01B
SET8D            BIT MUXTEMP1        ;TEST
BIT
                 BPL SET8C           ;X
MSB,OFF
                 LDA SETBIT,X
                 ORA $D010           ;BIT ON
                 STA $D010
SET8C            BIT MUXTEMP1        ;MODE BIT 6
                 BVC SET8B           ;HI BRCH
                 LDA SETBIT,X
```

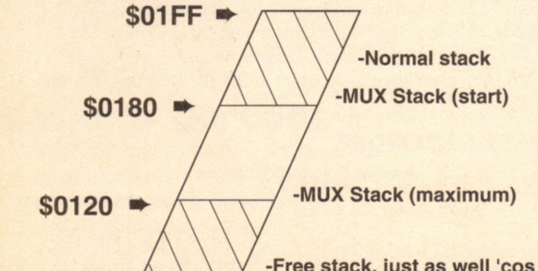
```
         ORA $D01C           ;BIT ON
         STA $D01C
SET8B    LDA SETBIT,X        ;SWITCH SPT
         ORA $D015           ;BIT ON
         STA $D015
         TXA                 ;CALC VIC SPT ·
         ASL A               ;COORDS ADDRESS
         TAY                 ;DUMP RESULT IN Y
         PLA                 ;PULL OUT X & Y
         STA $D001,Y
         PLA
         STA $D000,Y
         ;
         LDY MUXTEMP0        ;RECOVER INDEX
         INY                 ;UPDATE IT
         BMI SET8END         ;DONE ALL?
         DEC NUMSPTAB        ;REDUCE LIST
         BEQ SET8END         ;DONE LIST?
         DEX                 ;DONE 8 SPRITES
         BPL SET8SPR         ;SPTS? NO, BRCH
         STY MUXTEMP1        ;SAVE INDEX
         LDY #$7F            ;TOP OF TABLE +$40
         TSX                 ;SAVE OLD
         STX MUXTEMP0        ;STACK POINTER
         LDX #$80            ;MUX.STACK PTR
         TXS                 ;SET NEW STACK
```

The stack is used by the 'plexor in an unusual manor, effectively splitting the stack between the 'plexors' sprite storage and normal programs. See the code directly above, the old stack pointer is stored and MUXSTACK replaces it. The next section of code scans the table and pushes sprites onto this stack.

After the process is completed the normal stack is restored, however the pushed data is still at the address $0180 downwards. The 'plexor will use this stack when it's ready to service IRQs further down the screen. The previous diagram maps the 'plexors' stack usage.

NEXT MUNF

Paul finishes off his multiplexing series with the final piece of code to have 32 sprites whizzing around the screen at once. However for all everyone out there who'd like to get into coding but doesn't know quite where to start, we'll be doing a beginners guide to programming games in both BASIC and assembly code (Paul's very busy on a computer degree at the moment). We'll be explaining exactly who to make funky looking games so all you potential codeheads, watch this space.



STACK USAGE

Knowing how to use the stack properly is essential if you want to code anything other than a program which prints your name repeatedly down the screen.

SECRET OF SEUCKCESS

PART 2

Jon Wells is back with more hints, tips and listings for Shoot-'em-up Construction Kit fans...

After issue 39's feature, we covered the simple basics of getting into our SEUCKed games. This month we'll go one step further – incorporating BASIC into the finish games. This will enable us to use the 64's BASIC programming language to display better title screens, add high score tables and end sequences or even incorporate intro sequences, *get ready* and *game over* parts. Before we start though, you must have the loading hack listings from last month – if you haven't then there's an address at the very end of this article detailing where you can send for a copy with details on how to use it.

First of all, use the Hack listing and load in your SEUCKed game. If you remember, hitting Restore will exit you to BASIC. At this point we will now install the BASIC driver. When a finished SEUCK game is saved, the editor is saved with it, but it's not used by the finished program. The SEUCK editor is over 20K from locations $6500 to $8680 Hex. What a waste of memory. If there was only some way to use this memory for extra presentation... well, that's exactly what these next few listings are going to do. Before we type them in though, type in `POKE 21745,87`. This poke moves the random fire from a part in the editor to a part of the main code. Now enter and save the following fabby listing:

```
5 FOR A=25856 TO 25873: READ B: POKE A,B:
NEXT A
10 DATA 162,0,189,0,9,157,0,105,189,0
11 DATA 10,157,0,106,232,208,241,96
```

Now save it and enter `SYS 25858` and then type NEW. This gives us a bit more BASIC space to enter a bigger listing, as follows:

```
5 C=0: FOR A=25856 TO 25983: READ B: POKE
A,B
6 C=C+B: NEXT A
7 IF C<>14464 THEN PRINT “DATA ERROR!”:
END
10 DATA 169,0,141,90,94,141,16,72,141
11 DATA 131,72,141,51,73,169,128,141,21
12 DATA 72,141,126,72,141,46,73,164,224
13 DATA 141,91,94,141,17,72,141,22,72
14 DATA 141,127,72,141,132,72,141,47,73
15 DATA 141,52,73,169,121,141,27,72,141
16 DATA 122,72,141,212,73,169,122,141
17 DATA 89,94,169,105,141,215,72,141,227
18 DATA 71,141,187,73,160,11,162,0,140
19 DATA 94,101,140,102,101,152,24,105,96
20 DATA 141,97,101,189,0,37,157,0,133
21 DATA 169,0,157,0,37,232,208,242,200
22 DATA 192,38,208,222,189,0,38,157,0
23 DATA 134,169,0,157,0,38,232,224,128
24 DATA 208,240,96
```

Remember to save this listing before running it. Once that's done, enter `SYS 25856` again. This amazing listing has just relocated all of the map, colour and block data over the editor and also changed the pointers in memory to read this. One more listing to go and we're nearly there. Enter `NEW` again and the enter this:

```
5 C=0: FOR A=25856 TO 26031: READ B: POKE
A,B
6 C=C+B: NEXT A
7 IF C<>20475 THEN PRINT “DATA ERROR!”:
END
10 DATA 162,0,189,0,0,157,0,225,232
11 DATA 208,247,169,0,141,32,208,169,51
12 DATA 141,94,66,169,101,141,95,66,169
13 DATA 96,141,0,65,32,211,64,32,3,96
14 DATA 32,41,66,32,233,67,169,208,141
15 DATA 231,67,76,96,66,32,211,64,169
16 DATA 129,141,13,220,169,240,141,26,208
17 DATA 169,127,141,13,221,169,151,141
18 DATA 0,221,169,63,141,2,221,169,4,141
19 DATA 136,2,169,21,141,24,208,169
20 DATA 8,141,22,208,162,2,189,0,225,157
21 DATA 0,0,232,208,247,169,127,141,0
22 DATA 220,169,255,141,2,220,141,7,220
23 DATA 141,4,221,141,5,221,141,6,221
24 DATA 141,7,221,169,8,141,14,221,141
25 DATA 15,221,169,55,141,18,208,169
26 DATA 113,141,25,208,169,27,141,17,208
27 DATA 169,55,133,1,88,96,169,127,133
28 DATA 51,133,53,133,55,169,38,133
29 DATA 52,133,54,133,56,96
```

Once all that's typed in SAVE it and the enter RUN. First you must enter `SYS 26015`, which allocates the original map locations into BASIC locations and installs BASIC into SEUCK. From now on you must enter `SYS 25856` which runs your SEUCK game without the normal title screen. If you quit or die the SEUCK game will return back to the BASIC from where it left off. If you are playing about with one of the free games, then enter: `POKE 16964,0` to stop the game from returning to the editor on Space bar. From now on you won't need the reset restore hack, so enter: `POKE 24593,0` to disable it.

If you're using a two player game then: `POKE 16578,0` or `1` is one or two player respectively. Also, in one player mode, you may notice that pressing the fire button on joystick player two results in no second player appearing. As we no longer need the data listing, `NEW` the program. Now let's check to see how much BASIC memory we've got. To do this type the following: `PRINT FRE(0)-(FRE(0)<0)*65536`.

If all goes well you should have about 7800 bytes, that's about 8K of BASIC RAM, more than enough for what we want. There's still plenty of memory left from the editor – 5.5K from $A000 – $8680 which can be used for music, and 7K from $6600 – $6900/$8680 – $A000, which we can use for add-on machine code.

You may notice that, in using some of the free games – *Slap 'n' Tickle* for instance, that various parts of the background graphics become corrupt. This is (as we mentioned two months ago) because of the kernal basic pointers overwriting the chars from 166-169. Entering the following for/next loop will blank these chars for you; so it won't look so bad: `FOR A=64816 T 64848: POKEA,0: NEXT A`

I'm currently working on a routine to stop this from happening . Now for a small BASIC program to get you up and running. Type this in and `RUN` it.

```
1 REM ** TITLE AND GAME OVER DEMO **
2 PRINT CHR$(147);CHR$(19);CHR$(5);
3 FOR A=0 TO 200: NEXT A
4 PRINT TAB(2); "MONSTER MASH COPYRIGHT
1993 C-FORMAT"
5 GOSUB 10
6 PRINT CHR$(147);CHR$(152);SYS 25856
7 PRINT "CURSOR DOWN 9 TIMES"
8 PRINT TAB(16); "GAME OVER"
9 GOSUB 10: GOTO 2
10 PRINT:PRINT:PRINT
CHR$(150);
11 PRINT
TAB(9);"PRESS SPACE
TO CONTINUE"
12 GET A$: IF A$<>"
" THEN GOTO 12
13 RETURN
```

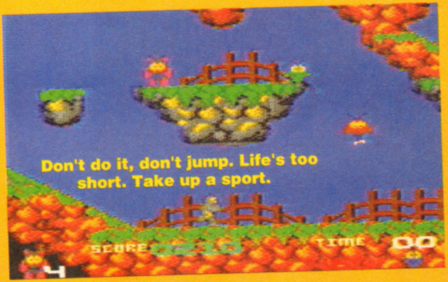
Nothing special I know but it should give you a rough idea of how it all works. If you've got any problems at all, send an SAE to Jon Wells, PO Box 22, King's Lynn, Norfolk, PE30 4DT.

RED WINS
WHITE STAYS IN
COME ON BLUE

"No Eric, don't hit the old dude, takeon this chap."

SHORT RANGE CHART
Or:ere
Uszaa
Reorte
Lave
Diso
Riedquat
Leesti
Zaonce
Tionisla
Orerve

Classic gaming action like *Elite* awaits you if you spend a bit of time to find a copy.



Don't do it, don't jump. Life's too short. Take up a sport.

SPOTLIGHT ON SOFTWARE

Having trouble getting hold of software for your C64? Simon takes a look at a few ways to get your hands on yet more games.

The fact that the C64 isn't exactly a boom industry right now is for two reasons. Firstly, there are no major corporate developments going on right now, and so not much new software enters the market these days (this is only to be expected, and at the end of the day isn't too much of a problem).

There is a second problem, however, one that's become all too aparent from the letters we've had from you. The problem is that many shops aren't finding it profitable to stock huge back catalogues of old releases either. So the question is: how can you get hold of these titles?

MAIL ORDER

Take a look through the hallowed pages of your friendly neighbourhood CF – you'll find a lot of mail order companies. The way these work is simple – the company buy up huge stocks of computer games, but sell them without the expense of setting up a shop. In fact, this cost-cutting is what enables them to provide you with games for a considerable discount. Just taking a look through one issue of CF, you can find two companies; *Amma Software* (☎0889 574740), and *Wizard Games* (☎0723 376586). In the full page ads, you can spot a huge number of different, recent, and high-scoring C64 titles ripe for the picking.

Not only can you find loads and loads of C64 tapes there but a huge wadge of C64 disks as well! That's right – these people stock both tapes and discs, all at absolutely ludicrous prices.

So that's one place to find your games, and it's got to be the easiest (assuming either you or someone you know has got a credit card), as you don't even have to leave your chair (I love being lazy, me) *(Get away - Hutch).*

BUT RE-RELEASES?

I know, but why is a new game going to be so much better than those released one or two years back? If you haven't played it yet, it's a new game whichever way you look at it. The C64 industry hasn't exactly come so far that one year is out of date, has it? You won't see another Turrican 2 being released now, I can guarantee it. But if you haven't played the ace Turrican 2, maybe it's about time you did then matey.

"Alright who let the mighty orb of megadeath in again?"

SHOPS

Okay, so maybe the shops aren't stocking as many C64 games as they used to, but not all games are sold on a sale or return basis – shops may still have some unsold C64 titles lying around somewhere which, as they're always happy to make wadges of cash, I'm sure they'd be overjoyed to sell to you at a nice low price.

Failing that, we advise you to check out your small independent locals – unlike the larger chain stores, smaller shops are slower on the update, and you should be able to find quite a reasonable range for your machine. Oddly enough, the rule works; the smaller, tattier, and more cramped the shop, the more luck you'll have finding what you want. Stick to that rule, and you can't go wrong.

THE UPSIDE DOWN

The big up side to having all these shops around is that you get to walk in, and actually look at what you might buy before you spond the cash over. You can check out the screen-shots or count the discs, which is something you don't get to do through a mail order company, meaning that if you want to get any reasonable idea of what a game's going to play like, you have to own the original mag with the original review in, which is not always the case. *(Unless you happen to work here - Hutch).*

Nobody likes shopping, though, and if you add futility to the mix, it gets even worse – there comes a point when you'll be running round your local towns trying to find anything, and having no luck at all. It's at this point that you'll utter the not so immortal cry of:

EEK! I CAN'T FIND A SHOP!

Of course you can – look around you. Britain is a nation of shopkeepers, you know. There's newsagents, shoe, clothes and fishing shops. Our streets are positively bulging with them. Actually, I think there's something slightly suspicious about that, don't you? Could this be a subversive revolution from the consumer activists?

Zoids was one of those classic C64 games which relied on gameplay.

LET THE BUYER BEWARE

Nice motto, huh? It probably wouldn't surprise you in the least to know that there still seem to be quite a few mail order houses working under this principle. This is all very well for them, but what about you? Here's something you might like to know.

If someone advertises in Commodore Format, they are included in the Mail Order Protection Scheme. This is a simple idea that basically means that if you get ripped off, you just have to speak to Alison Winter at Future Publishing. Though there is an upper limit on refunds we can give, you stand a good chance of seeing your money again, in part or even in full. Now that's good value.

A COMPUTER SHOP, YOU DOINK

Here's another solution; EDOS. The boys at Software On Demand, known as SOD (can I say that on live paper?), have developed the Electronic Distribution Of Software, EDOS. The idea is quite simple – why do shops have to fill their shelves with large bulky boxes that won't sell as well as their other large bulky boxes, when the less-profitable titles can be stored on computer, and written onto a tape or a disc, cutting costs not only for the shops (who pay considerably less to use the EDOS system than they would for the games individually), but for the user, who doesn't have to pay for things like packaging, distribution mark-up, etc.

The system itself consists of a computer hooked up to a large storage device, meaning the shop keeper just has to look through the computer's database of all available titles, writing the correct one to tape, and give you that. Because the system is so simple to use, you'll find them in loads of different computer shops all over the country – John Menzies, Future Zones, Independent Retailers, and WH Smith's. In fact, there are 138 outlets already.

You'll find adirty great feature on EDOS and the fifty essential programs you should have on page 15. Over the coming months we'll be reviewing every single EDOS game, so before you invest, be sure to check out the review in you friendly neighbourhood CF.

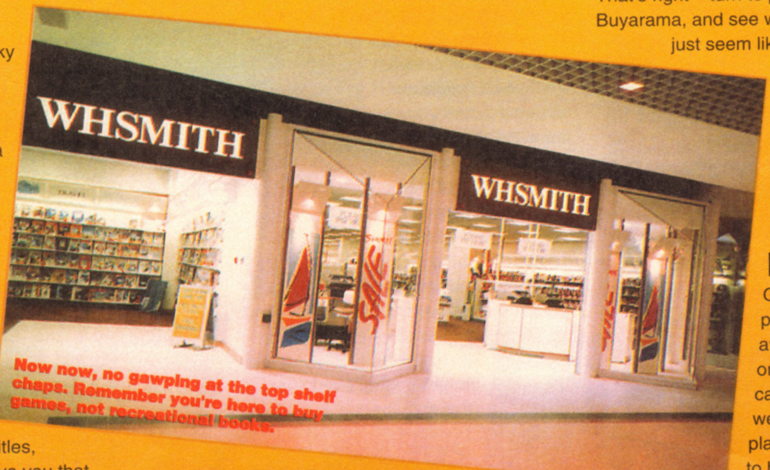
BARBARIAN
01900 01 02700

Quite possible the best beat-'em-up ever. Best head loss scene anyway chums.

If you can't find an EDOS stockist in your area (where do you live – North Polesville or something?), you can ring Software on Demand (bet there are no shops up there – the north pole, that is) on (☎0782 565400). Alternatively ('this is a shop free zone'), write to Unit One, Rosevale Business Park, Newcastle-under-Lyme, Staffordshire, ST5 78T (consumer retreat camps, maybe?). So we think you ought to go to your nearest EDOS stockist, and try a few titles.

AH, BUT I BET THAT THEY'RE ALL CACK

Wrong – take a look at the participating softies; Alternative, Codemasters, Elite, Fun Factory, Hi-tec, Kixx, Microids, Tronix, USGold, Zeppelin, and 21st Century. With that lot all pouring their best titles into the system, there really is quite a heavy selection of games to choose from.



Now now, no gawping at the top shelf chaps. Remember you're here to buy games, not recreational books.

ANYTHING ELSE?

Yes. If you're still having problems getting hold of games, there's one last way to get hold of them – order them direct from the software house. That's right – most softies would be overjoyed to send you their games (for the normal shop price), if you're prepared to ring them up. You can find the numbers of the softies in question on the tops of reviews, but if you're still stuck, here are a few numbers to try.

Alternative – (☎0977 797777)
Audiogenic – (☎081 424 2244)
Ocean/Hit Squad – (☎061 832 6633)
Thalamus – (☎0494 474713)
Titus/Fox Hits – (☎071 700 2119)
Touchdown – (☎0268 541126)
US Gold/Kixx – (☎021 356 3388)
Virgin – (☎081 960 2255)
Zeppelin – (☎091 385 7755)

EASIER WAY TO BUYARAMA

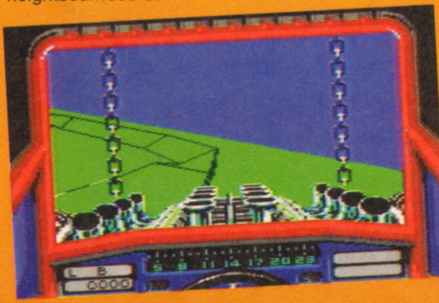
That's right – turn to page 22, Uncle Dave's Buyarama, and see what you can find. This may just seem like blatant plugging (probably because it is), but at the end of the day, you'll find a lot of very cheap but perfectly good software that either people are selling off from their old selection, or they've just written and want to sell.

FAILING THAT

Give us your money. Turn to page 52 to witness the full and awesome power of our mail order pages, and see what you can find. At the time of writing, we're halfway through re-planning exactly what we're going to be giving away through mail order, so watch that space for probably the best selection of software a magazine could ever hope to give away.

AND FINALLY

You could do far worse than toodling down to your local car boot sale. There's invariably someone down their flogging off a job lot of software. You could even take your own cast offs down there are make a few quid on the side. CF



"Sorry squire it'll cost you at least a pony to get this little lot sorted. Cash of course."

1UP
24670
2UP
00
TOP
24670
CREDITS
9

"Look at the state of this place. I leave you alone for two minutes and you wreck the joint."

1UP
4280
HIGH SCORE
100000
2UP
0
CREDIT 0

Up above the streets and houses, rainbow climbing high. Everyone can see it rising, over the sky. Hurrah!

INTRODUCING INTERWORD

On last month's covertape we included a stonking word processor called Interword. Here's Hutch to explain in detail how to get the most out of it...

Right then, you all bought last month's issue didn't you? If you didn't then turn to page 53 and get your back issue ordered. For all you sensible people that did, I'd like to take you through the features a bit at a time. You might like to go through this guide with the program up and running on your C64, trying everything out.

BASICS

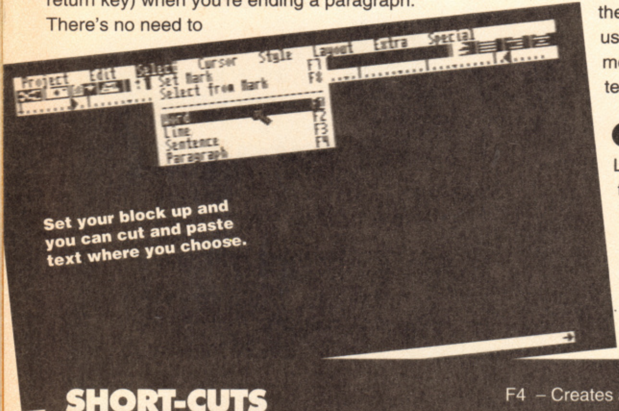
Now then, everyone's used a word processor before haven't they? No. Oh well, let me explain. A word processor is the digital version of a type writer. You can create documents, correct them, spell check them and print them out when you're happy with everything.

The main thing to remember is that you only use carriage returns (that's when you press the return key) when you're ending a paragraph. There's no need to use them at the end of each line. If you do this, you'll have terrible problems if you correct the text and also you won't be able to justify or centre the text. So just carry on typing when you get to the end of the line.

If you do make a mistake, it's often best to carry on typing and go back at the end to correct it. This way you can get your thoughts down on paper quickly and worry about spelling errors when the creative bit is finished. If you do want to correct something then you can move about the page with the cursor keys. Just use Delete to chop a character out and then type in whatever you meant to say in the first place.

There are some other useful keyboard short-cuts built into the program which enable you to move quickly about the text. One of the most useful is the CLR/HOME key which moves you quickly to the start of the text document.

This kind of thing's useful for English essays or shopping lists



Set your block up and you can cut and paste text where you choose.

CUT AND PASTE

Let's say that you've written a bit of text, but you're not very happy with its current position and you'd like to move it elsewhere. To do this you've got to define the bit of text and you do this with the joystick. The process goes something like this. Using the joystick, move to the start of the bit of text you want to move. Now hold down the fire button and move the joystick to the end of the text. When it's in the right place release the fire button. Now move the joystick up to the 'editing' menu and click on 'cut' (or you can simply press Commodore Key + X). The highlighted text should disappear into memory.

Your text is perfectly safe, it's just being held in memory until required. So now you can paste it back into the text elsewhere. Move the cursor to the desired point in your text and select 'paste' from the editing menu (or you can press Commodore Key + V). You can perform this 'paste' function as many times as you want, thereby reproducing the same bit of text again and again. This kind of thing's useful for English essays or shopping lists.

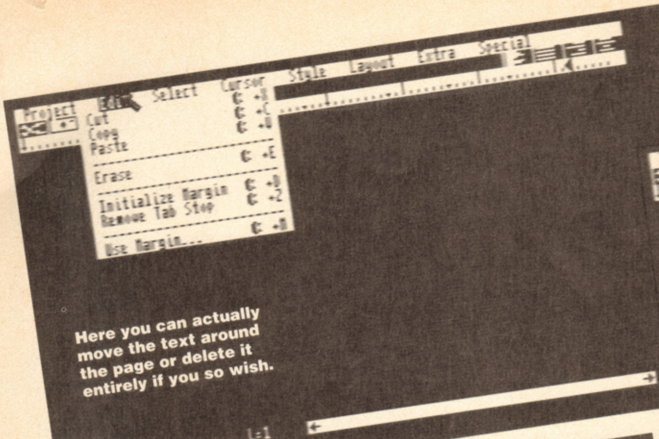
ONE FOOT IN THE MARGIN

One of the best features of Interword is its ability to make text look better. Now normally when you write you get either a jagged left hand edge, a jagged right hand edge or both. By using the

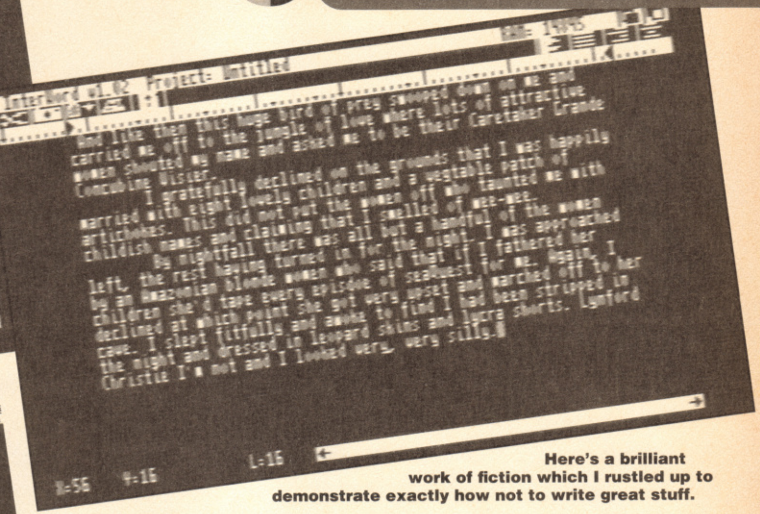
SHORT-CUTS

Should you get bored with the joystick, you can use the keyboard to access many of the menu functions. Where you see the symbol press and hold the Commodore key while pressing the other key:

O – Opens a document.
R – Deletes current document from memory.
S – Saves current document.
H – Saves and titles the document.
A – Prints the document.
F1 – Creates a text block using the current word.
F2 – Creates a text block using the current line.
F3 – Creates a text block containing the current ly highlighted sentence.
F4 – Creates a text block using the current ly selected paragraph.
F5 – Calls up the disk operations menu.
F7 – Remembers the start of a text block.
F8 – Creates a text block from the start selected.
K – Selects start-up preferences
T – About Interword.
Q – Quits Interword.
X – Copies and deletes highlighted text blocks from the screen.
C – Saves a text block in memory ready for pasting back into the document.
V – Pastes a text block from memory.
E – Deletes a text block
D – Initialises margins.
Z – Deletes tapstops.
M – Enables the use of the three definable margins used to move text in from the left.
B – Moves the cursor to the top of the document.
P – Normalises all style-types.
I – Underlines the marked text.
- – Marks where a word can be hyphenated, this stops sentences from looking too odd.
F – Finds and replaces words.
1 – Calculates the legibility index.
U – Changes all letters to UPPER CASE.
G – CHANGES ALL LETTERS TO lower case.
SHIFT – Switches between 40&80 character

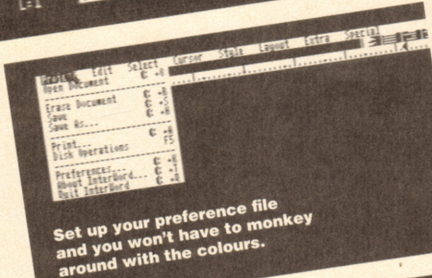


Here you can actually move the text around the page or delete it entirely if you so wish.

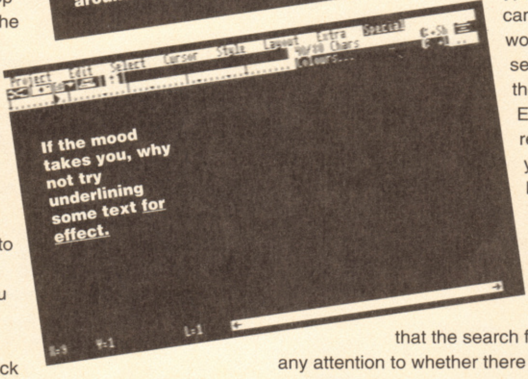


And like then this huge bird of prey swooped down on me and
carried me off to the jungle of love where lots of attractive
women shouted my name and asked me to be their Caretaker Grande
Concubine Visier.
I gratefully declined on the grounds that I was happily
married with eight lovely children and a vegtable patch of
artichokes. This did not put the women off who taunted me with
childish names and claiming that I smelled of wee-wee.
By nightfall there was all but a handful of the women
left, the rest having turned in for the night. I was approached
by an Amazonian blonde women who said that if I fathered her
children she'd tape every episode of seaQuest for me. Again, I
declined at which point she got very upset and marched off to her
cave. I slept fitfully and awoke to find I had been stripped in
the night and dressed in leopard skins and lycra shorts. Lynford
Christie I'm not and I looked very, very silly.

Here's a brilliant work of fiction which I rustled up to demonstrate exactly how not to write great stuff.



Set up your preference file and you won't have to monkey around with the colours.



If the mood takes you, why not try underlining some text for effect.

alignment function you can make both edges absolutely straight, place it all in the centre or make either the left or right hand edges straight. This function can be found at the top right hand portion of the screen just beneath the menu bar. You'll see four boxes of horizontal lines. To align your text simply click on the appropriate button with the joystick.

Should you want to make the actual text look different then you should turn your attention to the style menu. Click the joystick on this and you'll see an option for underlining and reverting to normal text. This function works either with highlighted text or on the fly. In other words you can select this option and then just type.

LOST AND FOUND

Should you decide to write that book (well everyone's got one inside them apparently) then you're going to end up with a lot of text. Finding specific words within all that text isn't the easiest job in the world, especially if you've got to re-read everything you've written.

Step forward and bow please, Find/Replace. These are the functions which make word processors so much more advantageous than typewriters. Interword can find and/or replace words or whole sentences by choosing the option from the Extras menu. If you're replacing a word then you've got to enter both the word you're looking for and the word you want to replace it with. The Ign. Case option on this menu means that the search function won't pay any attention to whether there are capital letters or not in the word or sentence you're looking for.

One of the odder functions is the capital/lower case function. This works in conjunction with the highlight function and enables you to change from UPPER CASE LETTERS to the lower case variety. I can only see this coming in useful when you (Brain of Britain) accidentally leave the Shift Lock button on by mistake.

While we're on the subject of odd functions, you might like to check out the very odd LIX option. This is a legibility index; the higher the number it comes out with, the more difficult the text is to read. At least that's the theory, in practise these things arent' a lot of good. But then it rated my text in the low tens so it's obviously no good. Anyway, the numbers work out something like this:

Type of document	Lix
Legal documents	70
Non-fiction	55
Papers and magazines	40
Fiction	33
Children's books	27

WIBBLY BITS

Other bits which I'd like to call your attention to are:

Start-up preferences – set margin settings, cursor type and flash rate, auto-backup and 40/80 character width screen.

Colours – if you find the screen colours a bit unreadable then change them here. You can save these preferences once you've set them.

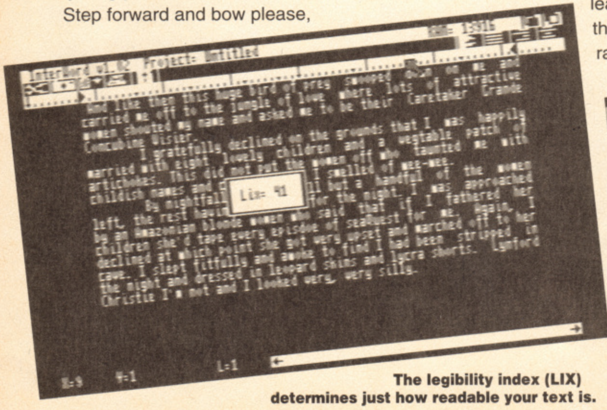
Printing – in the printout window you can set the number of copies produced, the number of lines that should be printed on each page and the length of the paper (measured in print-lines). The difference between No. of lines and Total no. of lines is printed at the bottom of each page as blank lines. This means all the text fits nicely on one page.

Tabs – you can tab across the screen by pressing the control key.

Status line – this is in the lower left corner of the screen and displays the cursor's current position. X corresponds to the position on the line, Y corresponds to the line you are on, S tells you which page you're on and L is the line number. Alternatively, you can look at the screen with your own two eyes and you'll be able to see exactly where you are.

THAT'S YOUR LOT

Right then, get experimenting. I expect to see loads of lovely printed letters from you lot over the coming months. Just don't ask for money because Simon's skinter than the British Economy.



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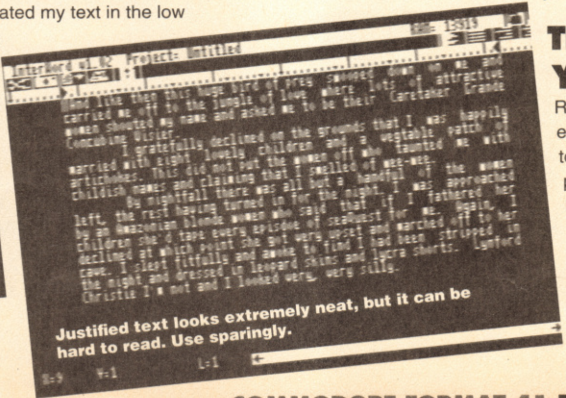
The legibility index (LIX) determines just how readable your text is.



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Justified text looks extremely neat, but it can be hard to read. Use sparingly.

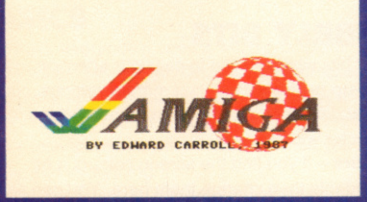
PD FORMAT

Skinflint? Miser? Just old-fashioned hard up? Desperately looking for some new software? Simon's got some good news...

Are you tired of getting your latest game home from the shop, only to find you've paid good money for complete tosh? Maybe you're just extraordinarily tight, and don't like the idea of shelling out three whole pounds on a game. Either way, take a look at this month's selection of goodies from the PD bag type thing...

AMIGA BALL

It's a ball. It bounces. What a world.



I can still remember, way back in the mists of time, a friend dragging me along to show me his Amiga produce some stupid little bouncing ball, and rub it in how my crappy 8-bit couldn't do it. I then went straight home, and produced an identical bouncing ball on my CPC464, dragging said friend back to see it soon after. All the evidence here suggests I'm not alone in my experience, as here's an excellent 8-bit libber's Amiga bouncing ball.

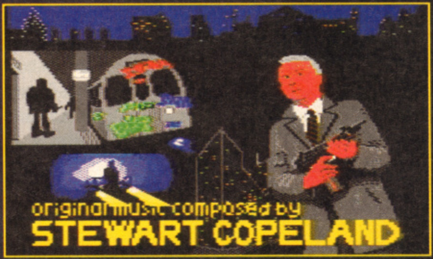
85%

CIRCLESQUE

Oh mercy me – it's another scrolly with funny colours running through it. Spin on.

10%

EQUALIZER



I suppose all we've got to perfect now is storing an entire episode on one disc to watch.

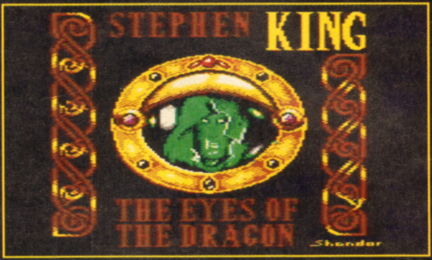
For some completely strange reason, this type of demo has only ever been done once – this time. The whole thing is a rip-off of the intro sequence to the *Equalizer*, featuring little frames of animation flying about the shop, with logos slamming down in front of a moodily lit picture of Eddie (or Woody) standing in front of his car. The music's faithful, as are the animations. It's wonderful, and really quite pleasing to the eye at that.

90%

KING'S EYES

Now I may be just being picky here, but I thought a demo was supposed to actually do something. This one's just a picture. It's a very nice picture, I'll grant you, but at the end of the day, it's just a program that displays this picture. Some music would have been nice. Something would have been nice. Reasonable picture, though. It's just a pity it's absolutely useless.

25%



It's a picture. Nowmally we say things like "it looks better when it's moving", but it doesn't.

MULE

Well, would you credit it? It's another picture, this time with a little tune meandering around in the background. Well, it's a little nearer to the mark that King's Eyes, but not quite. I think we've got an artist looking seriously for a coder, here.

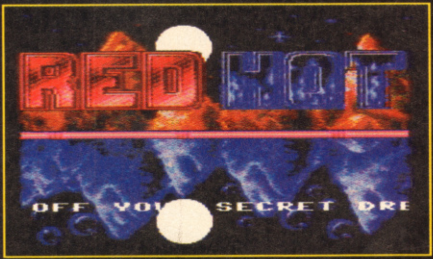
35%

PARADISE

Now this is what we like to see – a nice and original demo. Granted, it's got the same kind of little scrolling bits, but the second half is probably the smallest shoot-'em-up you'll ever play. The game itself is sitting on a tiny picture of a monitor in the middle of the demo screen, and it's actually really quite fun. This scares me, and really does prove a few things about game design.

70%

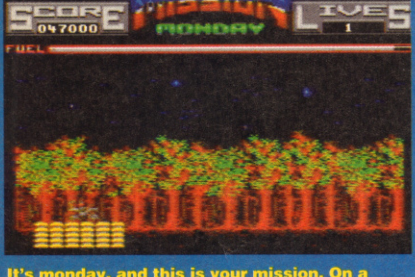
RHCP



Blood sugar, sugar fish in my dish, how many pieces would you wish, and all that jazz.

Methinks some coder discovered a brand new graphics routine to store huge pictures, viewing a bit of them on screen at a time. Why do I think that? Well, the whole demo is based around huge scrolling pictures of various bits and pieces, the first being the band name *Red Hot Chilli Peppers*. This does mean that it gets an extra 20% for having good taste in music, and being, as it is, a slightly more original demo, it scores quite highly.

80%



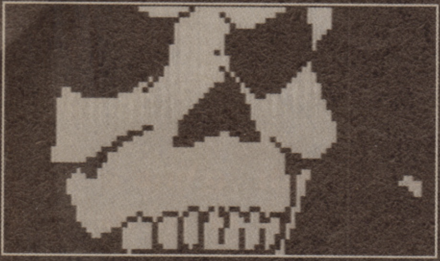
It's monday, and this is your mission. On a Monday, yes. Indeed. So what do you do for a living, then? Oh – that's nice.

MISSION MONDAY

Do you remember moon buggy? Difficult, wasn't it? The difficulty came from timing your jumps across gaps, requiring almost pixel perfect timing. It was realistic, you see, and so the gameplay suffered through things actually being normally proportioned, and therefore nearly impossible. In this, though the height of jumps has been increased and the holes have turned into walls to jump over. Alright so it's a Moon Buggy clone, but if you don't have the original, this is a good place to start. Worthy of a buy.

70%

SKELETOR



There comes a time when every writer must say "It looks much better when it's moving."

Here's something you don't often see on an 8-bit – an attempt at video. Granted, it's all very basic stuff with absolutely huge pixels, but never the less it's a nicely animated piece of video footage, based around the (dismal) cartoon series.

85%

CHAOS

The first game this month is an odd one – try to imagine asteroids in which you can only face one way, and you're getting there. Replace the boulders with baddies, and you're even closer. Take away a large amount of the fun, and you're spot on. When I complete a wave of aliens, I don't just want a new load as if nothing has happened; I like a nice little tune, or a message, or even 'Wave 2' to appear on the screen for a moment. No such luck – it's just a monotonous alien blast in a ship with no steering.

40%

DANGER ZONE

So what did they do with the asteroids from *Chaos*? They chucked them into the otherwise quite simple horizontal scroller, *Danger Zone*. The idea is quite simple – you fly through an asteroid field, avoiding the rocks (they sap vital energy), trying to shoot down the aliens, who, incidentally, can fly through solid rock any time they want, as it really does them no harm at all. It's definitely a challenge, but this does sap the fun element a little.

55%

GALACTIC WARRIOR

Now this one really is an odd little shoot-'em-up. You see, whilst it's all very well to fly horizontally avoiding buildings, shooting aliens, avoiding things and the like, you can't help feeling that you're travelling in a direct loop, not actually travelling anywhere, whilst the game just throws more aliens at you. It's like having your time wasted for you.

40%

INVADERS

Another appropriate title would have been Insanely Fast Invaders. You roll onto the screen, and wait. A few seconds later, at around twice the speed of sense, some aliens scream down the screen, narrowly missing you (if you're lucky), and vanish. This happens a lot, and then some. If you've never been the one at the dangerous end of a knife throwing act, play this and find out what it feels like.

45%

MENTAL MOONS

These moons definitely are mental – they think they're the planet Earth. But hey – what can you alliterate the word 'planets' with? Well, it's another handicapped ship, anyway – there's no steering mechanism, making the whole game really quite shallow, really. In fact, it's desperately shallow, as it's just another crap shoot-'em-up. I'm feeling quite depressed now, really…

30%

PROBE X

A horizontally scrolling shoot-'em-up *(Echo… echo - Hutch)*. There is one teensy problem though; there are a hell of a lot of aliens that you can't actually kill. Instead, you go careering into them, firing desperately, until you die. They don't die, which is probably the most torturously irritating thing in the world. Combine this with the fact that there's no way of telling whether you can kill something from sight and you've got a game which can causes joysticks to fly across the room into walls.

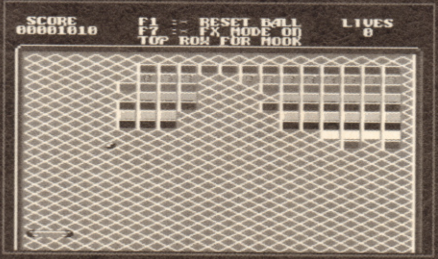
65%

SHOOT 'EM WILD

Either the plot for this involves tracking down the guy whole stole the planet graphic from *Mental Moons*, or some coder somewhere is getting incredibly short of pictures. Personally, I think 'Wild' is a little bit of an overstatement, but Shoot-'em-Tame doesn't really sound all that impressive. When I've finished wittering, I'll get round to telling you it's just another single screen handicapped shoot-'em-up, that you really shouldn't bother with if you've got any of the other naff shoot-'em-ups we've looked at this month.

35%

SQUISHY



Okay, so it's all very well being an *Arkanoid* clone and stuff, but why the heck is it called *Squishy*?

It's not, though, is it? It's actually an Arkanoid style thing (that's *Break-Out* with some rather special little add-ons, to the rest of us), with lots of bricks to shoot down, loads of different patterned screens to waste, different types of bricks (such as indestructible or two-hit), and various other bits and pieces to keep you occupied. Apart from going out to buy yourself a copy of *Arkanoid* (and why the hell would you want do that with this lying around?), this is probably the closest you can get to the original. Okay, there aren't as many power-ups, but this is still fab gear, mates.

85%

TWISTER

Though this will throw away enough games to fill this section for the next year or so, there has to be the obligatory *Tetris* clone in every PD column. This one is a pretty straightforward version, save for the fact that the programmer, in a bid to make the game a little deeper, has committed the cardinal sin – adding more pieces. The point of *Tetris* is matching shapes that have been specifically designed to actually be possible if you think fast enough and have the right strategy. This is because they're all constructed of four squares. When you start producing shapes with three, five, or six squares, the whole thing falls to part. The whole thing has fallen apart.

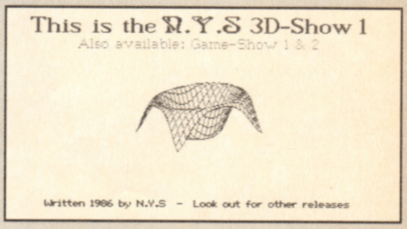
This doesn't mean to say, though, that the way is now paved for several other *Tetris* clones that don't have vital gameplay flaws – all Tetris clones are just mindless copies.

20%

3D FILM

There's nothing 8-bit owners like more than to see their machine do something previously thought impossible. This is one of those times, then, when C64 owners across the country wet themselves in unison. The image itself is a very fast moving 3D plane (meaning surface as opposed to flying thing), and though it's not calculated in realtime, it's more than just a set of sprites (it had better be, or I'm going to look really stupid).

80%



This is the N.Y.S 3D-Show 1

Also available: Game-Show 1 & 2

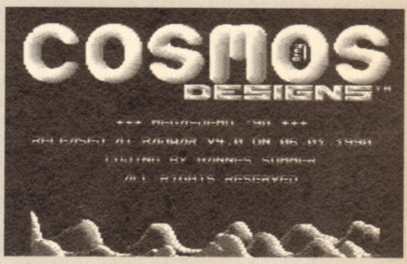
Written 1986 by N.Y.S - Look out for other releases

How did they do that? More importantly, what's it supposed to be anyhow?

COSMOS

Think demo. Think standard scrolly thing, logo, greetings, music, then reset your machine and breathe again.

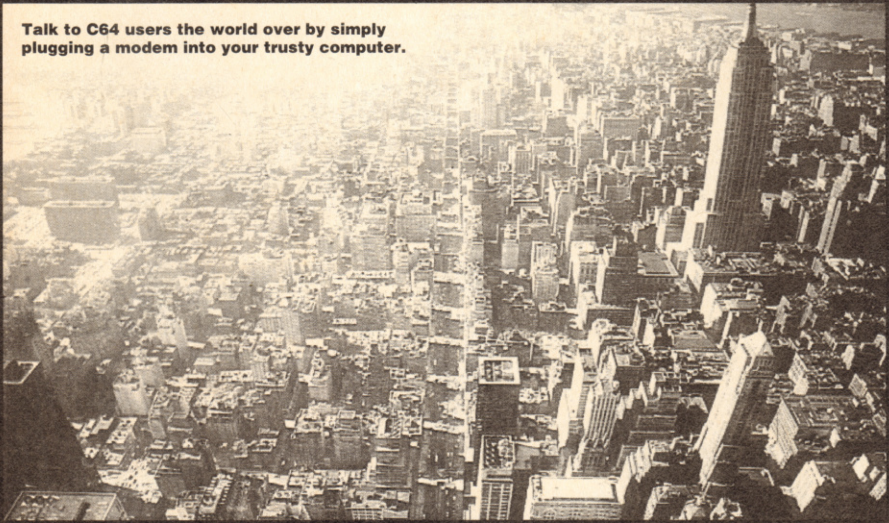
20%



I'm on the lookout for a team of hitmen to execute all demo writers who think that this stuff is anything other than complete crap.

POCKET OFFICE :COMMS

Ever tried to cram an office into your pocket? This month, we show you how to tinker around with other people's...



Talk to C64 users the world over by simply plugging a modem into your trusty computer.

It's all very well for you to sit around at home with your computer happily playing games, writing letters, or even doing your home accounts, but it's all very lonely, isn't it? At this point, you have two options:

1 – Go outside and get a life.
2 – Get a modem.

Now there are several thousand magazines that'll try to tell you how to get a life, but it's about time we took a look at our second option – telecommunications. If you want the full lowdown on exactly what all this modem stuff is all about, take a look at last month's thrilling installment, but this time we're going to see exactly what you can do with the dratted things.

BULLETIN BOARDS

Two words – 'free', and 'software'. I'll happily bet any reader that those two words, even snuggled in here on page 36, have psychically increased this magazine's sales over a certain other title. I'm absolutely serious.

The truth of the matter is this – one of the best things you can ever find anywhere (as far as your C64 is concerned – personally, I'd prefer to trip over a briefcase stuffed full of cash on my way to the office one morning) is free software – and BBS systems are chocked completely full of the stuff – I mean really full.

You see, if you log onto a BBS system, there'll be a section that, if it's not called something like 'Free Software' will be labelled 'Download' or something similar. I think it's time for a little jargon-busting pop pickers:

Upload – to send something to the host computer.
Download – to send something to the remote computer.
Host computer – the bulletin board system, or whatever else you're calling.
Remote computer – you.

The other side to a BBS, of course, is sending messages – but you already know all about *Fidonet*, along with other networking systems. When happens outside of a BBS, though? Is there anything left?

MICRONET

Yep – it's the industrial side to this whole thing, with what you might know as a commercial bulletin board. Though other BBS systems may charge on-line fees, *Micronet* was the original money grabbing system, catering for people who didn't mind not only paying huge phone bills, but even bigger system fees simultaneously, and at the same time, too.

Anyone who's got a TV set capable of producing Teletext images will have a pretty good idea of what *Micronet* looks like – they both use a standard started way back in the mists of time by a computer known as the BBC Micro. The system itself consisted of a normal character set, capable of being displayed in eight colours (one of which is black), and a set of quartered characters, for doing some really very chunky graphics. From these basic elements, you could create any Teletext page, and subsequently any *Micronet* page.

The whole system is laid out in very much the same way, being a set of numbered pages that can be spooled through or picked out individually. The real advantages of Micronet come when you start to use the system a little more deeply – because you have access to a keyboard as opposed to a numbered keypad, you can enter much more than just numbers, and therefore there is a hell of a lot more you can do:

E-MAIL

The main service of Micronet (as well as several hundred pages of solid information) is electronic mail. This service is quite similar to the standard networked BBS mail systems, except for the fact that this system has links with CompuServe.

WHAT'S THAT, THEN?

It's huge. Big. Massive, even. It spans the globe in one form or another, and has established links with just about any university you'd care to mention. It's sort of the computerized version of the telephone or postal system, if you like. A lot of people actually give CompuServe serial numbers in their addresses, as you can contact absolutely anyone from anywhere, without the hassle of waiting for Fidonet to reach them (each serial number acts as an address, which is a hell of a lot more efficient than just a name and rough location).

WHAT KIND OF USE IS ALL OF THIS?

I would have thought that would have been pretty obvious to tell you the truth – if you're doing your accounts, filing, information processing etc on your C64 at home, and you wanted someone else to see what you'd done, CompuServe or E-Mail could quite easily carry the file elsewhere for you – who says you can't fit several thousand other offices into the same pocket as your own?

Have fun mates.

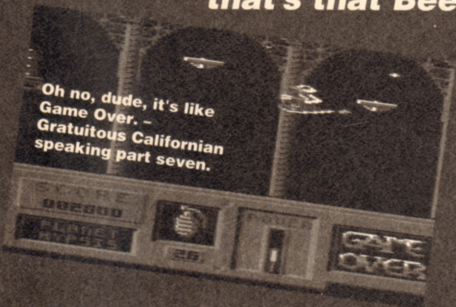
CF

MY NAME IS MUD

One type of game on *Micronet* that really took off from the start was the *Multi-User Dungeon*. This was a simple text adventure game that you played over the phone, with the twist that as well as you, several other users were wandering around the same maze at the same time. This meant that instead of interacting with computer generated characters, you got to chat, team up with, compete with, or kill other users. In terms of gameplay, it was probably the most enjoyable adventure game ever written, as at the end of the day, you were actually communicating with other real people.

GAMESBUSTERS

Ladies and gentlemen, welcome to another astounding edition of Gamebusters, the show where 'you' the readers are the stars. No wait, that's that Beedle show. Ermm, here are some hints and tips...



Oh no, dude, it's like Game Over. – Gratuitous Californian speaking part seven.

GAME OVER

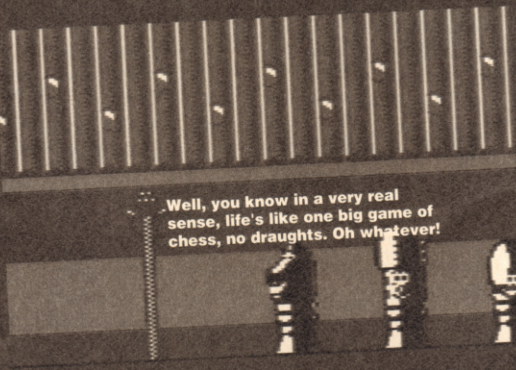
(PowerPack 37)

If the stunning maps and tips printed in CF38 weren't enough (and let's face it, they weren't), heed this sound advice for part two courtesy of Richard Beckett. Oh, and the code for part two is ZAPPA. From the start:
Go right, climb ladder, go left, collect bonus, go right, right, right, right, right, go down on lift, right, right, right, collect energy, go left, left, left, up on lift, go left, collect bonus, go left, go to top platform on lift, go right, right, right, shoot top statue eye until you start flashing (you're invincible), go left, left, left, up on lift, go right (you can only go through the wall if you're invincible), go right, right, collect invincibility, go left, left, left, down on lift, go right, right, down on lift, go left, left, left, fall down through waterpool (again, only if you're invincible), go right, then kill the guardian to complete a very, very tough game.

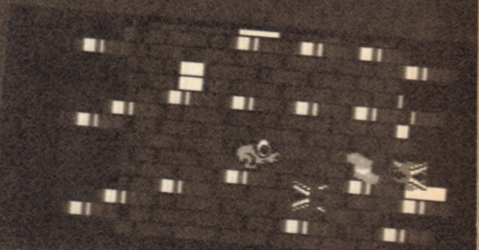
ROBOCOD

(Millenium/Kixx)

There is a hidden world in the game. To access it, on the start castle, go to the far right of the level and climb onto the turret. Fall left, then run across the battlements. As soon as you hit the cherry, jump into thewall to be taken to the new world. A big 'cheers' to Richard Beckett forthat beautiful tip.



Well, you know in a very real sense, life's like one big game of chess, no draughts. Oh whatever!



Look at the state of that masonry. You could punch your first through that.

NEBULUS

(PowerPack 37)

Here's a nify cheat which absolutely anyone can use - many thanks to Mike Benson for reminding me to include it. Start the game, then press 'P' to pause the game. Now press the UP ARROW, 'J', and the BACK ARROW simultaneously. Still holding these keys, hit fire (with your chin, as Mike says) to restart the game. With any luck, the timer will have frozen,and you now have infinite lives, infinite time, plus the ability to jump to any of the eight levels by tapping the appropriate number on the keyboard.

GROD THE PIXIE & CYFORCE 1

Here's a handy tip to bear in mind if you own an Action Replay. Simply load up the game, press fire to start, then prod the freeze button. Now press 'K', followed by 'C', and you can now restart the game with no collision detection. And if you own a lot of SEUCK games, this trick willwork on them too!

SPLODBOG'S DOG

On the 59th level, leap over the terrapin, avoiding the custart tart and enter the washing machine. Transport up to the starship and thank the mother for the scones.

CF

ACTION REPLAY POKES

More delicious Action Replay POKES courtesy of Richard Beckett and Warren Pilkington. To use them, freeze the game, press 'E' to enter the POKEs,then jab 'F3' to restart the game.

CYFORCE 1
POKE 19214,0 - Infinite lives

GAME OVER
POKE 15566,165 - Infinite lives
POKE 5713,165 - Infinite grenades
POKE 11310,181 - Remove enemies
POKE 11310,255 - Bring back enemies
POKE 15244,234 POKE 15245,234 - Infinite power
POKE 15857,165 - Infinite sheilds

GROD THE PIXIE
POKE 19214,0 - Infinite lives

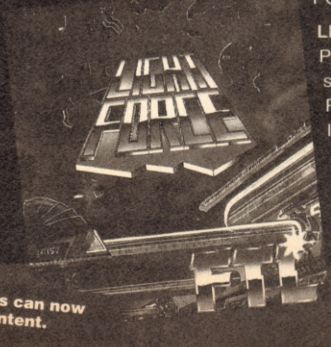
LUNAR LANDING
POKE 23024,173 - Infinite lives
POKE 21949,0 - Infinite fuel

MAYHEM DEMO 2
POKE 48661,0 - Infinite lives
POKE 14333,0 - Infinite time
POKE 15971,173 - Infinite credits

FREDDY HARDEST PART 1
POKE 46359,173 - Infinite lives
POKE 34916,0 - No collisions

LIFEFORCE
POKE 13730,173 - Infinite shields
POKE 1857,173 - Infinite lives

LUNAR JAILBREAK
POKE 7022,0 - Infinite time
POKE 14601,96 - No collisions



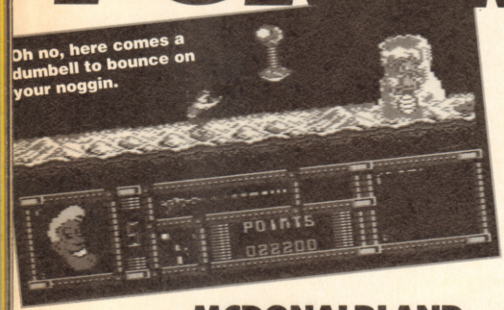
All you cartridge owners can now cheat to your hearts content.

20-20 VISION

There's a chance to win $20 of free software-type goodies every month,simply by sending in your best maps, tips, POKES, solutions, in fact anything you think we'll find useful. If it hits the spot, you could win a handsome $20 Software Voucher. Post the goods to: Andy Roberts' Gamebusters, Commodore Format, 30 Monmouth Street, Bath, Avon, BA1 2BW.

LISTOMANIA POKERAMA

Acres more tips from the hottest gamebuster in town. Andy Roberts can even play a competent version of Chopsticks on the piano...


Oh no, here comes a dumbell to bounce on your noggin.

MCDONALDLAND

For infinite lives, energy, and arches on this exquisite fast-food simulator, type in this listing, SAVE it for any future use, then RUN it.

```
0 REM MACCY-D CHEAT BY WAZ
1 FOR X=288 TO 334:READ Y:C=C+Y:POKE X,Y:NEXT
2 IF C<>5495 THEN PRINT “DATA ERROR”:END
3 FOR WA=1 TO 3:READ A$,A1,A2:PRINT “INFINITE
”;A$;:INPUT B$
4 IF B$=”N” THEN FOR WB=A1 TO A2:POKE WB,234:NEXT
5 NEXT WA:POKE 157,128:SYS 288
10 DATA 032,044,247,056,169,052,141,158
11 DATA 003,169,001,141,159,003,076,081
12 DATA 003,087,065,090,169,118,141,184
13 DATA 197,169,054,141,185,197,076,072
14 DATA 197,169,240,141,219,132,141,066
15 DATA 110,141,231,131,076,013,008
16 DATA LIVES,323,325,ENERGY,326,328
17 DATA ARCHES,329,331
```

EXECUTIVE LEADERBOARD

A rather smart listing here, which gives the selected player zero shots throughout the game - which means you can finish with a perfect score.

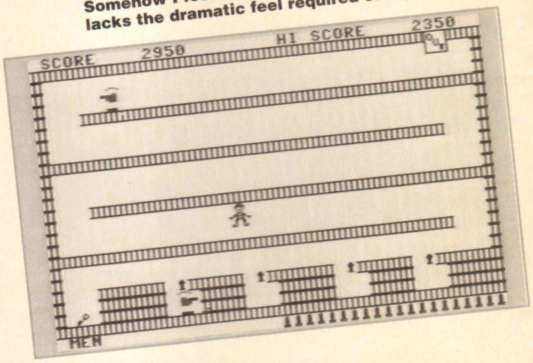
```
0 REM LEADERBOARD CHEAT BY WAZ
1 FOR X=272 TO 331:READ Y:C=C+Y:POKE X,Y:NEXT
2 IF C<>5924 THEN PRINT “DATA ERROR”:END
3 INPUT “WHICH PLAYER 1-4”;A:IF A<1 OR A>4
THEN 3
4 POKE 325,A-1:POKE 157,128:SYS 272
10 DATA 032,086,245,169,032,141,131,009
11 DATA 169,001,141,132,009,076,016,008
12 DATA 169,050,141,020,008,169,001,141
13 DATA 021,008,076,022,008,087,065,090
14 DATA 057,051,169,032,141,181,158,169
15 DATA 068,141,182,158,169,001,141,183
16 DATA 158,076,000,104,224,000,240,003
17 DATA 254,200,095,096
```

EXEC LEADERBOARD - DISK

Yep, and here's a listing for disk users which does exactly same as thecassette version, er, except it's for disks. Type it in and RUN it, slip in the disk, then kick back and enjoy.

```
0 REM LEADERBOARD DISK CHEAT BY WAZ
1 FOR X=272 TO 337:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>7188 THEN PRINT “DATA
ERROR”:END
3 INPUT “WHICH PLAYER 1-4”;A:IF A<1 OR A>4 THEN 3
4 POKE 331,A-15 PRINT CHR$(147);”INSERT DISK
& PRESS A KEY”
6 POKE 198,0:WAIT 198,1:SYS 272
10 DATA 160,001,152,162,008,032,186,255
11 DATA 169,002,162,051,160,001,032,189
12 DATA 255,169,000,032,213,255,169,056
13 DATA 141,020,008,169,001,141,021,008
14 DATA 076,022,008,069,042,087,065,090
15 DATA 169,032,141,181,158,169,074,141
16 DATA 182,158,169,001,141,183,158,076
17 DATA 000,104,224,000,240,003,254,200
18 DATA 095,096
```

Somehow I feel that this screen shot lacks the dramatic feel required of a good game.



FREDDY HARDEST PART 2

Freddy Hardest? *(You've done this gag already, and it wasn't funny then -Ed).* Er, here's a listing POKE for the second (and most playable) part of this sprawling arcade excursion. *(Arcade excusrion, is that like when you go to a seaside amusement centre to check out all the latest coin-ops? - Hutch).* No.

```
0 REM FREDDY P2 CHEAT BY WAZ
1 FOR X=516 TO 556:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>4082 THEN PRINT “DATA ERROR”:END
3 INPUT “INFINITE LIVES Y/N”;A$:IF A$=”N”
THEN POKE 545,206
4 INPUT “INFINITE AMMO Y/N”;B$:IF B$=”N”
THEN POKE 550,2065 POKE 157,128:SYS 516
10 DATA 032,086,245,169,019,141,207,003
11 DATA 206,208,003,096,087,065,090,169
12 DATA 032,141,013,010,169,002,141,014
13 DATA 010,076,230,003,169,173,141,042
14 DATA 122,169,173,141,108,123,076,027
15 DATA 008
```

DEEPSTRIKE

Strike deeper, strike faster, and strike a light guvnor, it's a listing POKE for infinite lives, crate loads of ammunition, and more fuel than you could use on a trip to Scotland.

```
0 REM DEEPSTRIKE CHEAT BY WAZ
1 FOR X=516 TO 561:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>4314 THEN PRINT “DATA ERROR”:END
3 INPUT “INFINITE LIVES Y/N”;A$:IF A$=”N”
THEN POKE 545,206
4 INPUT “INFINITE AMMO Y/N”;B$:IF B$=”N”
THEN POKE 550,206
5 INPUT “INFINITE FUEL Y/N”;B$:IF B$=”N”
THEN POKE 555,1
6 POKE 157,128:SYS 516
10 DATA 032,086,245,169,019,141,207,003
11 DATA 206,208,003,096,087,065,090,169
12 DATA 032,141,013,010,169,002,141,014
13 DATA 010,076,230,003,169,173,141,124
14 DATA 029,169,173,141,000,030,169,000
15 DATA 141,022,029,076,039,022
```

COPS AND ROBBERS

What could be better than a perpetually looped video of *The Bill*? Well,this listing for infinite lives, ammunition, and no collision detection allows you to play the game forever... or until bedtime.

```
0 REM COPS & ROBS CHEAT BY WAZ
1 FOR X=516 TO 561:READ Y:C=C+Y:POKE
X,Y:NEXT
2 IF C<>4591 THEN PRINT “DATA ERROR”:END
3 INPUT “INFINITE LIVES Y/N”;A$:IF A$=”N”
THEN POKE 545,206
4 INPUT “INFINITE AMMO Y/N”;B$:IF B$=”N”
THEN POKE 550,206
5 INPUT “NO COLLISIONS Y/N”;B$:IF B$=”N”
THEN POKE 555,51
6 POKE 157,128:SYS 516
10 DATA 032,086,245,169,019,141,207,003
11 DATA 206,208,003,096,087,065,090,169
12 DATA 032,141,013,010,169,002,141,014
13 DATA 010,076,230,003,169,173,141,007
14 DATA 026,169,173,141,246,047,169,033
15 DATA 141,031,057,076,064,061
```

SOS DIZZY

It's part two of our SOS Specials entirely dedicated to the irksome little egg known as Dizzy - he's just too damn popular. This month Andy tackles Fantasy World and Magicland...

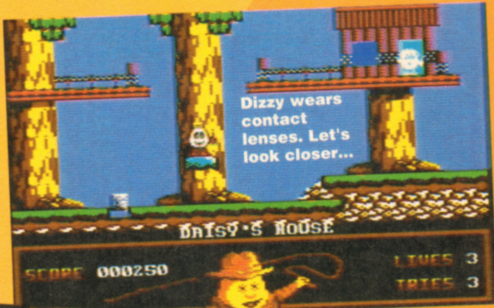
FANTASY WORLD DIZZY

From the start: drop the APPLE next to the Troll, get the BREAD and the JUG OF WATER, drop jug next to fire, L, get BOULDER, U+R, drop bread in centre of passage, U, drop boulder, R, jump crocodile and get BOULDER, L,drop boulder, U+L, hit SWITCH, U, R, jump U+L, jump U+R, U, U, get BONE,D, R, get KEY, L, D, L, D, R, drop key and get BOULDER, L, L, drop bone at cave entrance and get BOULDER, L, L, drop both boulders in water, R, R, R, R, get BOULDER, L, L, L, L, drop boulder in water, L, L, L, get SLEEPING POTION from Dozy.

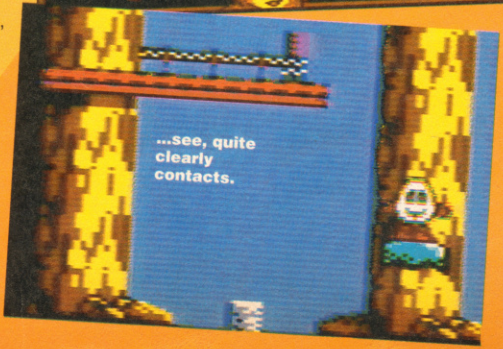
R, R, R, get KEY, R, R, R, R, R, R, drop potion next to dragon, L, L, get KEY, R, R, R, get BAG (to carry more objects), U+R, R,D+L, put keys in LIFT CONTROLS, R, R, R, R, get KEY, L, L, L, L, put key in LIFT CONTROL, R, U, L, L, get in LIFT, R, U, get in LIFT, get CROWBAR from Grand Dizzy, L, get PICK AXE, R, get in LIFT, D, L, get in LIFT, R,R, D, R, get COW, L, U+L, L, drop crowbar on hatch, fall D.Weird City! Go L, give cow to Shopkeeper, get BEAN, R, R, get KEY, L, D,go U+R, R, D+L, put key in LIFT CONTROL, R, R, plant bean in the cow pat,L, U, L, L.

Get in LIFT, R, U, R, get KNOCKER, L, D, L, get in LIFT,fall D+L, L, L, U+L, U, R, jump U+L, jump U+R, U, drop knocker by door to open it, L, get BUCKET, R, D, L, D, R, R, R, R, U+R, R, R, R, R, fill bucket in pool, L, L, drop bucket on the cow pat, climb up, R, U, R, R,get DRAGON'S EGG, fall D, L, D, L, L, L, L, get in LIFT, drop egg on nest,R, jump on left hand ledge, drop pickaxe, L, get RUG, R, D+L, get in LIFT, U, R, R, climb up.

R, U, R, R, R, drop rug next to spikes, jump U+L,jump U+R, hit SWITCH, L, R, then talk to Daisy to complete the game... but not quite. Collect all 30 coins and take them to Daisy's hut to successfully complete the game.



Dizzy wears contact lenses. Let's look closer...



...see, quite clearly contacts.

HELPFUL HINTS

- Most of the hidden coins can be found behind railings. In real life look down t he back of the sofa.
- The bag allows you to carry loads of objects.
- Be careful riding in lifts - it's too easy to get caught in the grinding cogs.
- Talk to Denzil to gain a rope - this can be dropped on the crocodile to stop it snapping.
- Some of the clouds can be jumped on, some can't, so practise and learn.
- Before you flick the switch to rescue dear old Daisy, get the coin from underneath the table.

MAGICLAND DIZZY

From the start: Go L, get KEY, L, L, L, open back door, L, get HANDLE, U, L, L, U, get POWER PILL, D, R, R, D, R, R, drop handle at top of well, get BUCKET, R, R, R, R, R, R, R, fill bucket in the geyser, L, get POTION, drop power pill, L, L, collect DORA THE FROG, L, L, L, L, L, L, give Dora to Prince Charming.

L, hit SWITCH, L, L, L, drop potion and bucket, R, R, R, R, R, U, R, R, R, get STICK, U, jump right onto the monolith, get CAT, fall down onto Weirdhenge, get DAGGER, R, R, give cat to Glenda, L, L, L, L, use dagger to cut a leaf from Dylan's bush (don't pick it up yet), L, L, L, L, L, L, L, L, free goat with dagger, hit goat with stick,drop dagger, R, R, R, R, R, U, L, get CROSS, R, D, L, L, L, L, L, get BUCKET and POTION, L, L, drop bucket on Denzil, L, L, D, D.

Get TORCH (on the right of the screen), R, give potion to Daisy, L, U, U, R, R, get PERSONAL STEREO, drop cross, R, R, R, get APPLE, R, R, R, R, U, L, L, L, L, give stereo to the Bard, collect the PIPES, D, R, R, R, R, R, R, drop pipes near the well, R, collect the LEAF, R, R, R, R, give the apple/torch/leaf to Glenda, get WEEDKILLER, L, L, L, L, drop weedkiller on Dylan, L.

Get PIPES, fall down onto the ledge with the diamond, drop pipes, L, L, get LAMP, U, U, U, U, get LIGHTNING ROD, D, D, R, R, get CLOTH DUSTER, L, L, D, drop duster on lamp, pick up LAMP and DUSTER, L, L, L, L, drop lightning rod on top of Dozy, stand on the steps, drop duster on the lamp, R, R, R, R, R, R, D, L, get STICKY THING, L, U, L, L, L, drop sticky thing on excalibur, L, L, L, L, L, U, U, jump left, D.

Left through mirror, L, talk to Grand Dizzy, R, R, D, R, go to volcano and jump over the clouds, D, D, talk to Lucifer, collect TRIDENT, go to Zak's tower and use the trident on him, collect the RING, go back to Lucifer (he will tell you to destroy the ring), L, stand on middle rock and drop the ring, then take thirty diamonds to Lucifer to complete the game!

CRUCIAL CLUES

- Do NOT use the 'EAT ME' cake on any of Dizzy's friends.
- If you rest on a cloud, you'll slowly sink through it - be careful, try jumping repeatedly.
- Don't hang around too long on the lilly pads.
- Getting out of HADES is tricky, but possible, so keep trying. *(That's bloody helpful. Not - Hutch)*
- The three hidden diamonds are hidden behind fences in THE SWORD IN THE STONE, BUSHY GROVE, and the CRACKS OF GEHENNA.
- When you think about it, we should make Guy Fawkes a saint, not burn effigies of the last man to make a sensible comment about the state of the government.

CF

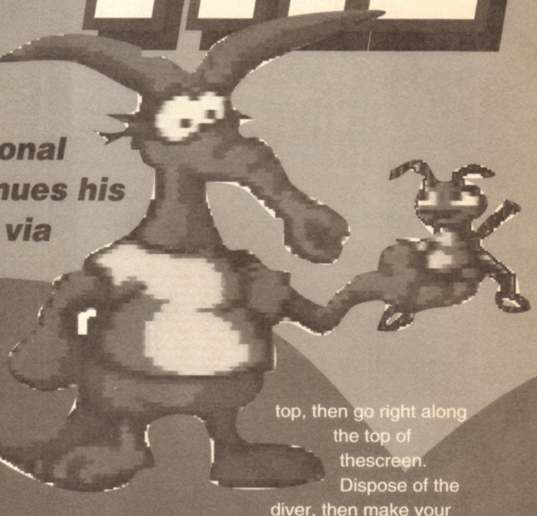
NEXT MONTH

In the third and final part of our eggstra-ordinary Dizzy specials, we crack open Dizzy Prince of the Yolk folk and vigorously beat Spellbound Dizzy. Be there.

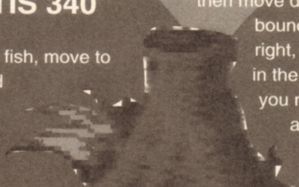
NOBBY THE A

PART 3

This month Nobby clambers into his personal submarine as he continues his quest to Antopia... erm, via that well known watering hole Atlantis. Andy Roberts is your guide through the waterways...



LEVEL 3 - ATLANTIS 340 BC



From the start: Shoot the green fish, move to the top of the screen, then head right (shoot the purple fish as you progress). Continue right until you reach a stone pillar, then move down when the starfish has bounced away. Move down and right, shoot the diver and the starfish in the cave, then move up again when you reach the stone temple (be careful, asstarfish tend to appear from above). Shoot the pink squirter at the top, then go right along the top of thescreen. Dispose of the diver, then make your way to the right (if you stay at the very top, the spitter below cannot reach you). Continue right

above th
when yo
avoid th
bottom,
up to th
Mov
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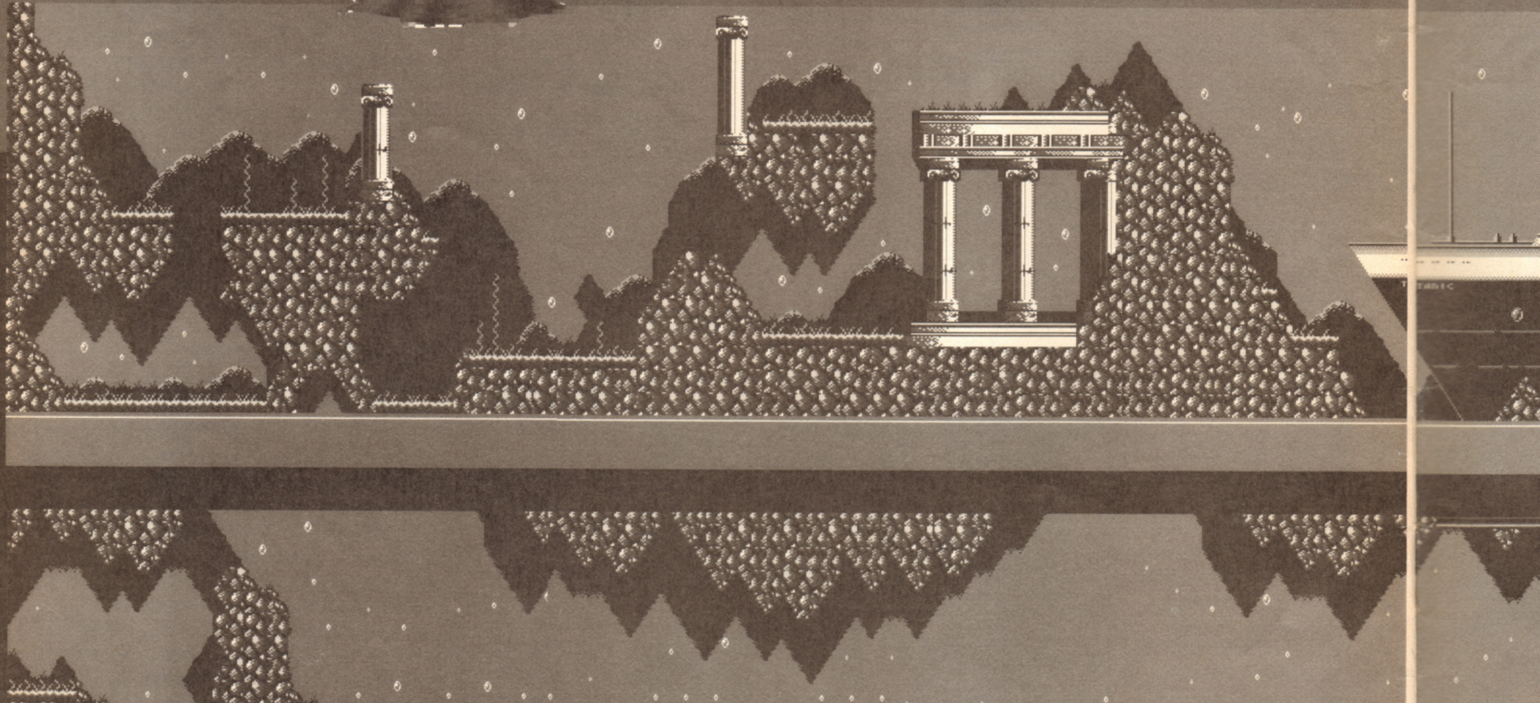
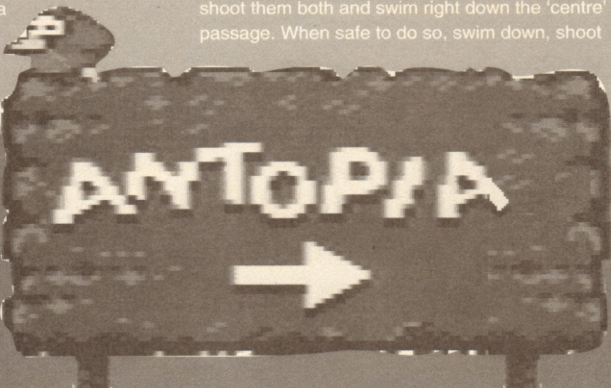


AARDVARK

above the funnels of the Titanic, then move down when you reach the stone column - be sure to avoid the fish below. Continue right along the bottom, shoot the spitter and the diver, then move up to the top of the screen.

Move right until you reach a large cave, nudge down and shoot the diver,then continue right (sticking close to the top of the cave). Shoot the purple fish, move to the top of the screen, then shoot the other fish and head right. When you reach the next cave, stay close to the top as before and continue rightwards. When you reach the two divers, carefully move down and shoot them both, as they can cause problems a little further on.

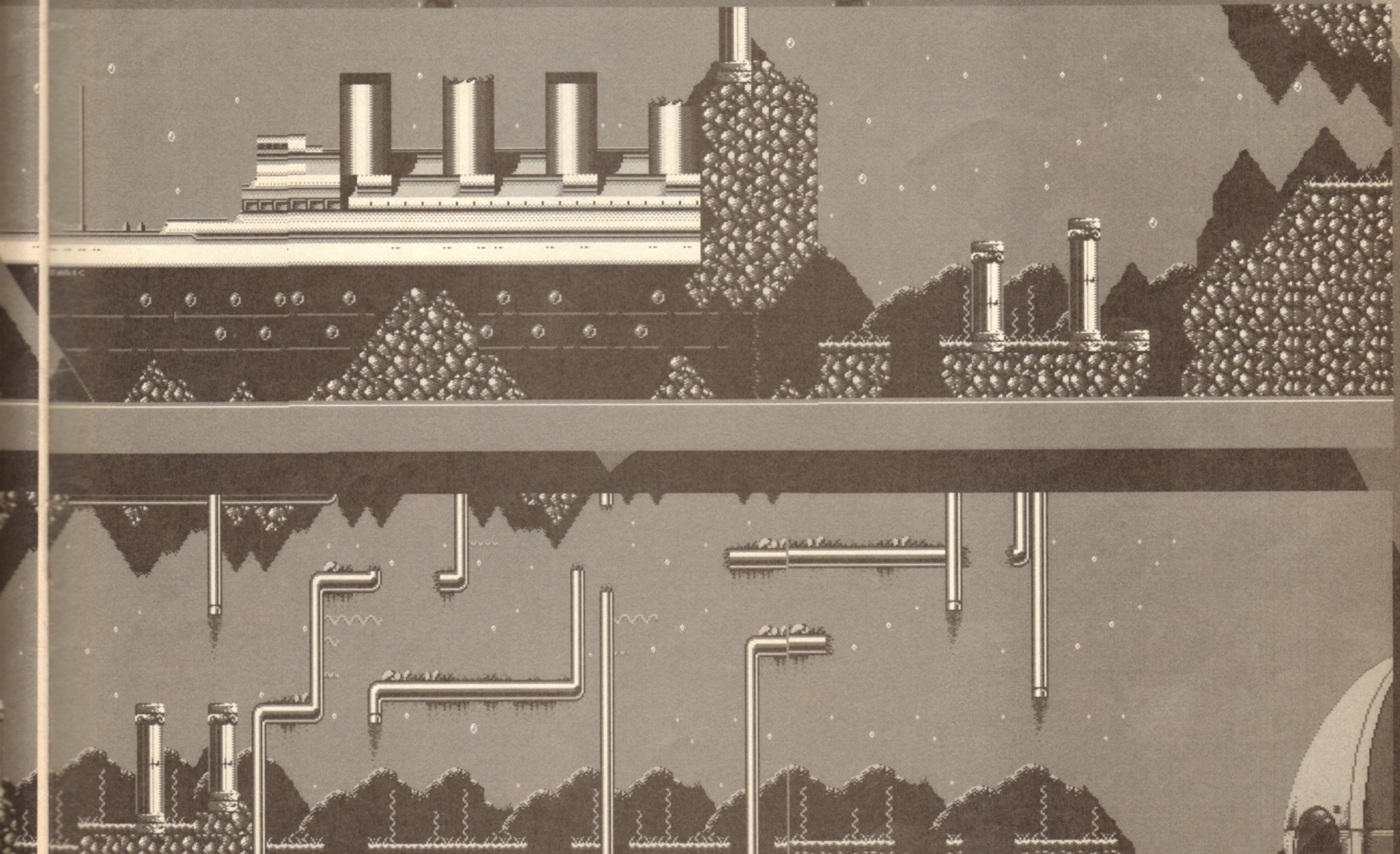
Move under the pipe, then move back up, go right, then move down throughthe gap in the pipes. Shoot the fish, then head right and up. When you reach the diver and fish *(Isn't that a bar? - Ed)*, shoot them both and swim right down the 'centre' passage. When safe to do so, swim down, shoot the spitter at the bottom of the screen, then swim right until the computer takes control - Nobby will jet off to pastures new.



Finally Bobby new the dramatic truth – Virginnia had been lying to him all along. He strode from the castle and mounted his dapple horse. As he cantered down the dark country lanes he thought he could her Vincent's voice calling out to him. It kept saying "No, no, no, not the green wire, the black one." He was upset. CF

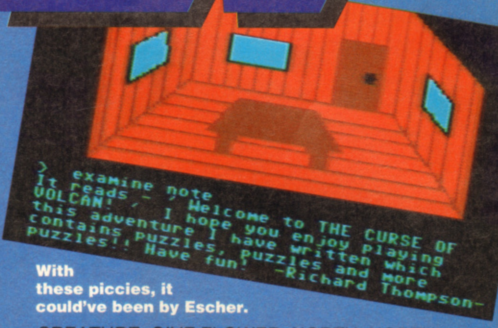
NEXT MONTH

Join us in thirty days for the fourth (and perhaps the spookiest) part of Nobby's excellent adventure. What lies within the City of Atlantis? Will Nobby ever reach Antopia? You'll have to wait and see... erm... because we don't know either. Ahem.Till next month.



VOLCAN

Yet another POWERPACKed adventure which has left dozens of readers with bruised brains and blistered fingers. Fear not, here's a complete solution courtesy of Richard Thompson, with maps by our very own Andy Roberts.



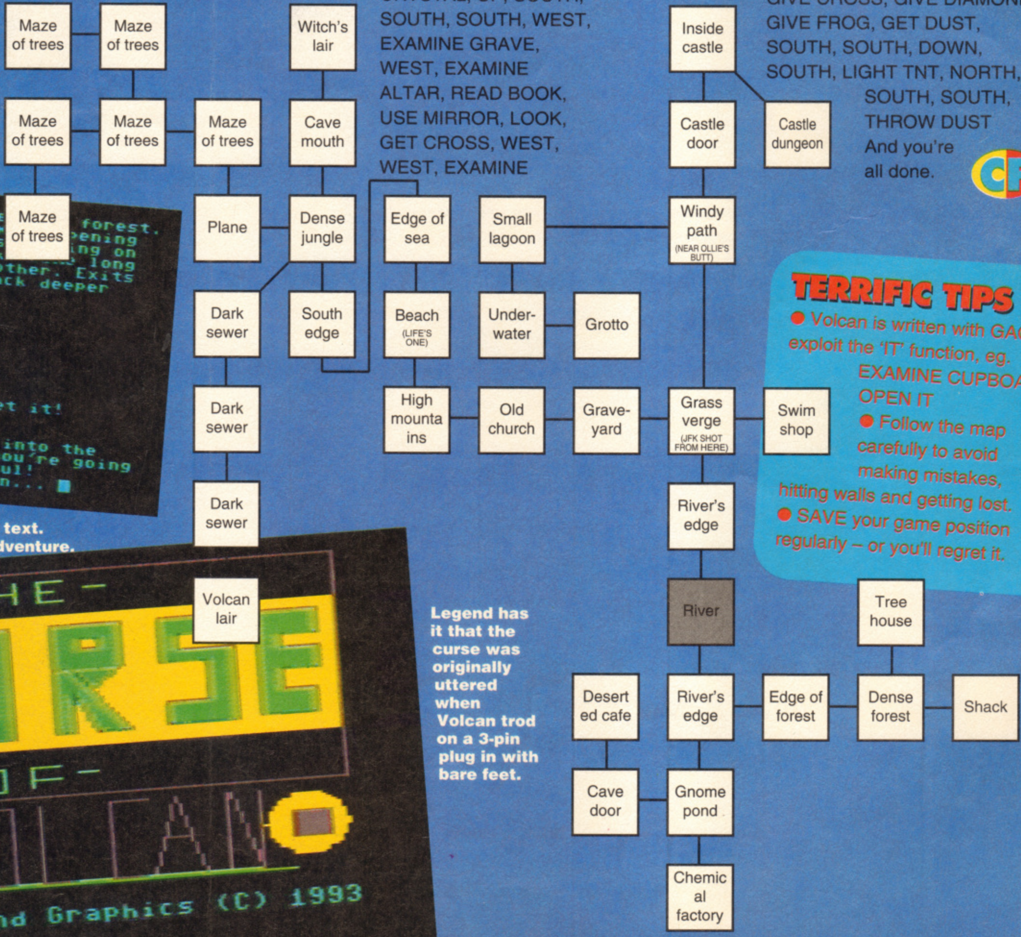
```
> examine note
It reads - ' Welcome to THE CURSE OF
VOLCAN!  I hope you enjoy playing
this adventure I have written which
contains puzzles, puzzles and more
puzzles! Have fun!  -Richard Thompson-
```

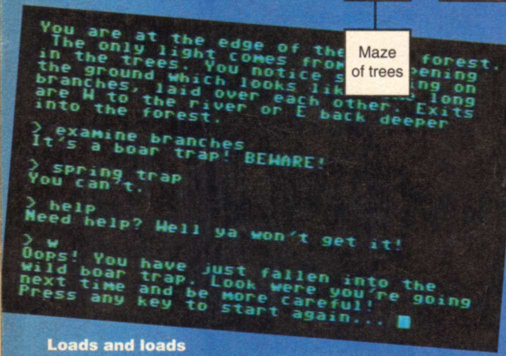
With these piccies, it could've been by Escher.

FROM THE START:

EXAMINE TABLE, GET MIRROR, WEST, EXAMINE FOLIAGE, GET MATCHES, EXAMINE TREE, CLIMB TREE, GET DINGHY, EXAMINE CUPBOARD, OPEN CUPBOARD, GET PLANK, DOWN, WEST, USE PLANK, WEST, GO DINGHY, SOUTH, SOUTH, EXAMINE MACHINE, PRESS BUTTON, NORTH, WEST, NORTH, EXAMINE BONES, LOOK, GET CANDLE, SOUTH, EAST, NORTH, GO DINGHY.NORTH, EXAMINE GRASS, LOOK, GET COIN, EAST, EXAMINE COUNTER, BUY DIVING EQUIPMENT, WEST, NORTH, EXAMINE FLOWERS, GET POPPY, WEST, DIVE, EAST, EXAMINE WEEDS, GET ROD, EXAMINE STONES, GET DIAMOND, WEST, UP, EAST,SOUTH, SOUTH, GO DINGHY, SOUTH, GIVE ROD, NORTH, GO DINGHY, NORTH, NORTH,NORTH, SAY VOLCAN, NORTH, LIGHT CANDLE.DOWN, EXAMINE STRAW, LOOK, GET CRYSTAL, UP, SOUTH, SOUTH, SOUTH, WEST, EXAMINE GRAVE, WEST, EXAMINE ALTAR, READ BOOK, USE MIRROR, LOOK, GET CROSS, WEST, WEST, EXAMINE CREATURE, GIVE FLOWER, NORTH, NORTH, GO BOAT, NORTH, WEST, EXAMINE PLANE, GET MATTRESS, NORTH, WEST, NORTH, WEST, GET LADDER, EAST, SOUTH, EAST, SOUTH, EAST, DOWN, GET FROG, CLIMB LADDER, NORTH, NORTH, GIVE CRYSTAL, GIVE CROSS, GIVE DIAMOND, GIVE FROG, GET DUST, SOUTH, SOUTH, DOWN, SOUTH, LIGHT TNT, NORTH, SOUTH, SOUTH, THROW DUST

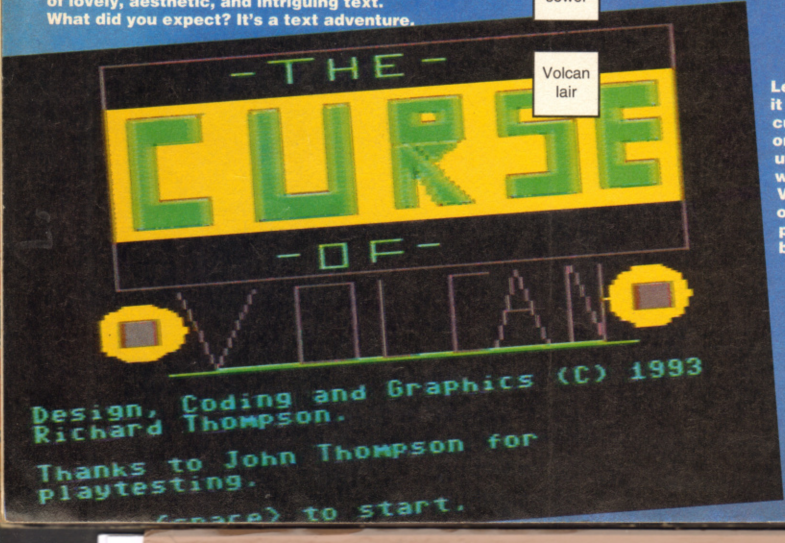
And you're all done.


Maze of trees
Maze of trees
Witch's lair
Inside castle
Maze of trees
Maze of trees
Maze of trees
Cave mouth
Castle door
Castle dungeon
Maze of trees
Plane
Dense jungle
Edge of sea
Small lagoon
Windy path (NEAR OLLIE'S BUTT)
Dark sewer
South edge
Beach (LIFE'S ONE)
Under-water
Grotto
Dark sewer
High mountains
Old church
Grave-yard
Grass verge (JFK SHOT FROM HERE)
Swim shop
Dark sewer
River's edge
Volcan lair
River
Tree house
Deserted cafe
River's edge
Edge of forest
Dense forest
Shack
Cave door
Gnome pond
Chemical factory



```
You are at the edge of the[illegible] forest.
 The only light comes from[illegible]pening
in the trees. You notice s[illegible]ing on
the ground which looks lik[illegible] long
branches, laid over each other. Exits
are W to the river or E back deeper
into the forest.

> examine branches
It's a boar trap! BEWARE!

> spring trap
You can't.

> help
Need help? Well ya won't get it!

> w
Oops! You have just fallen into the
wild boar trap. Look were you're going
next time and be more careful!
Press any key to start again...
```

Loads and loads of lovely, aesthetic, and intriguing text. What did you expect? It's a text adventure.



```
-THE-
CURSE
-OF-
VOLCAN

Design, Coding and Graphics (C) 1993
Richard Thompson.

Thanks to John Thompson for
playtesting.
<space> to start.
```

Legend has it that the curse was originally uttered when Volcan trod on a 3-pin plug in with bare feet.

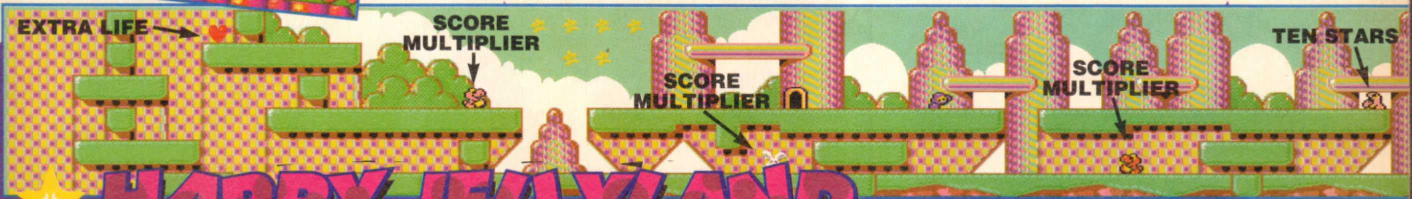
TERRIFIC TIPS

- Volcan is written with GAC, so exploit the 'IT' function, eg. EXAMINE CUPBOARD, OPEN IT
- Follow the map carefully to avoid making mistakes, hitting walls and getting lost.
- SAVE your game position regularly – or you'll regret it.

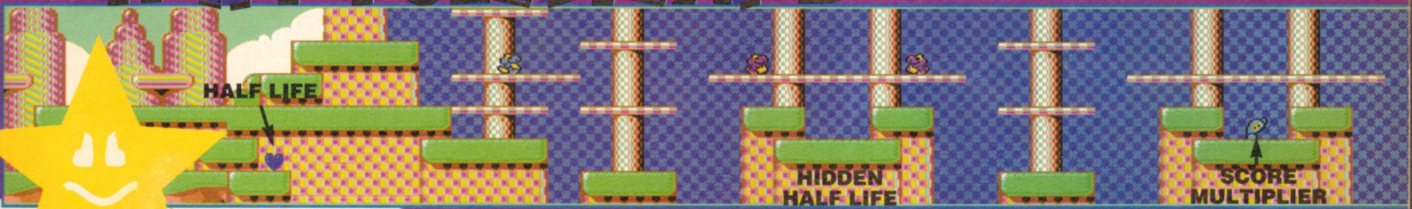
MAYHEM: HAPPY JELLYLAND

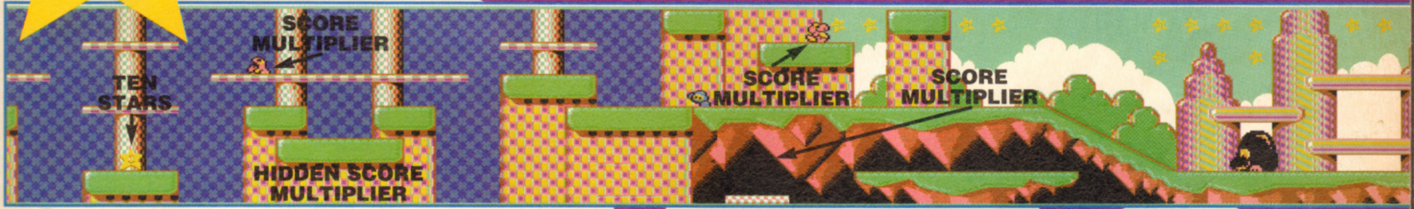
No alien is safe (even in a tree).

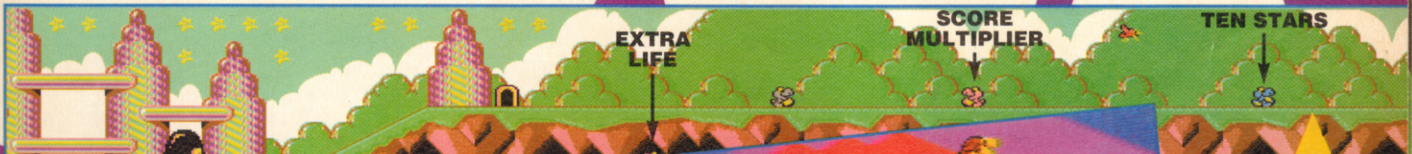
Well, it's nice to see that everything's cheered up a bit now I only hope things can stay that way. Just to make sure the smile stays on your face, here's Andy Roberts with the guide to the slightly cheerful version of Jellyland...

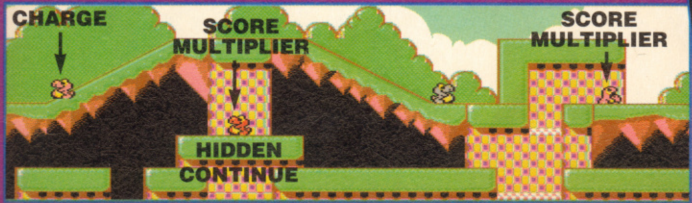

EXTRA LIFE
SCORE MULTIPLIER
SCORE MULTIPLIER
SCORE MULTIPLIER
TEN STARS

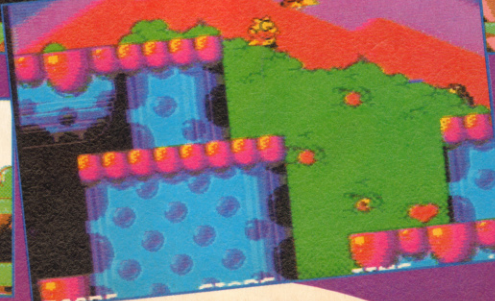
HAPPY JELLYLAND


HALF LIFE
HIDDEN HALF LIFE
SCORE MULTIPLIER

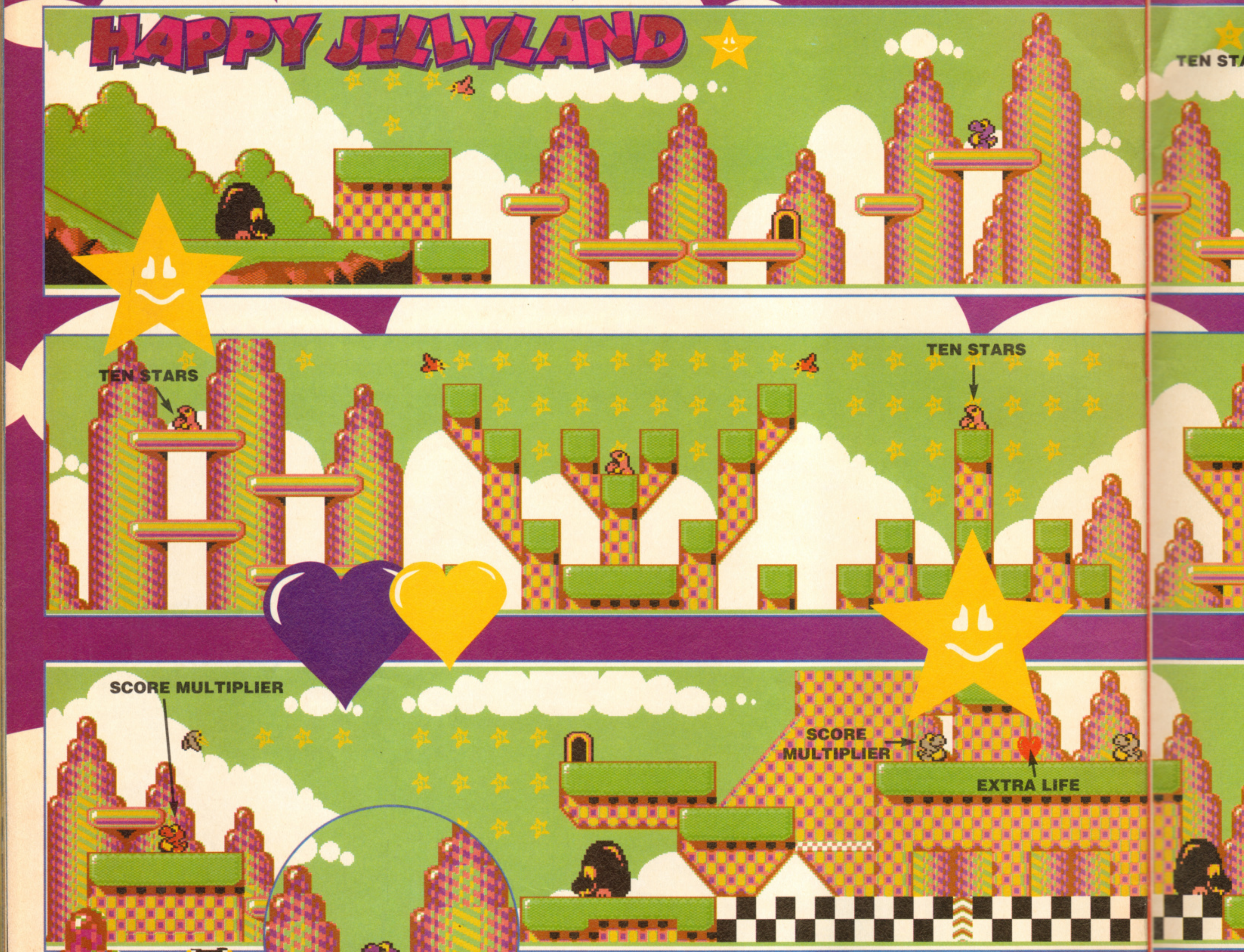

TEN STARS
SCORE MULTIPLIER
HIDDEN SCORE MULTIPLIER
SCORE MULTIPLIER
SCORE MULTIPLIER


EXTRA LIFE
SCORE MULTIPLIER
TEN STARS


CHARGE
SCORE MULTIPLIER
HIDDEN CONTINUE
SCORE MULTIPLIER


The downhill slalom is always a popular event.

HAPPY JELLYLAND



Jelly wobble, jelly wobble, wobbling on a plate (oh, I can't remember how it went).

Stage 1 – Jellyland
Time limit: 250
Dust quota: 10
Star quota: 113

CAST OF MONSTERS

Dino: Pretty common throughout the happy level, most of them leaving bonuses behind. There are no special rules for Dino, just jump on him or charge.

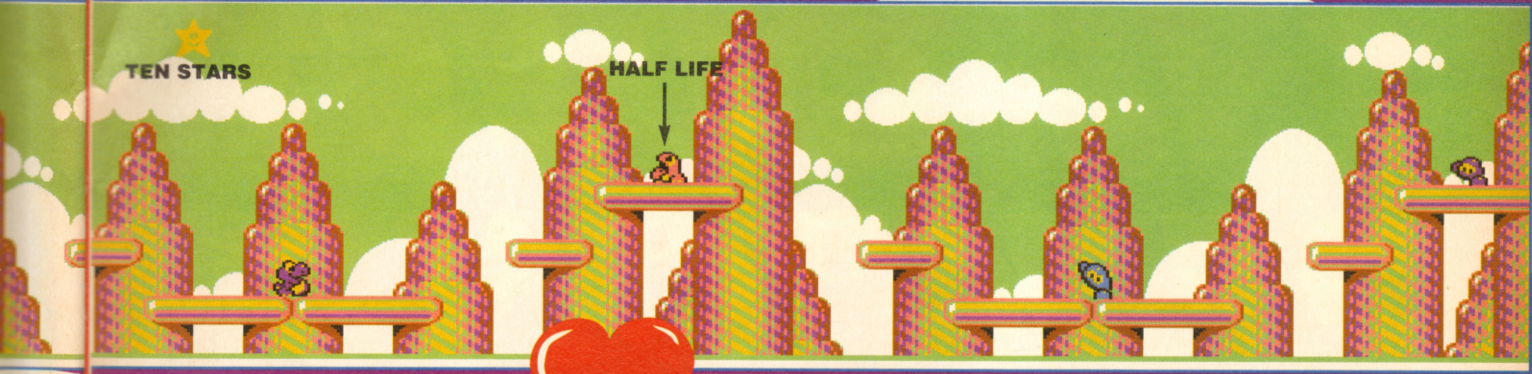
Flapodactyl: These are similar to Dino in the killing respect. It's a little tricky to jump on the ones that swoop, so in general charge at them.

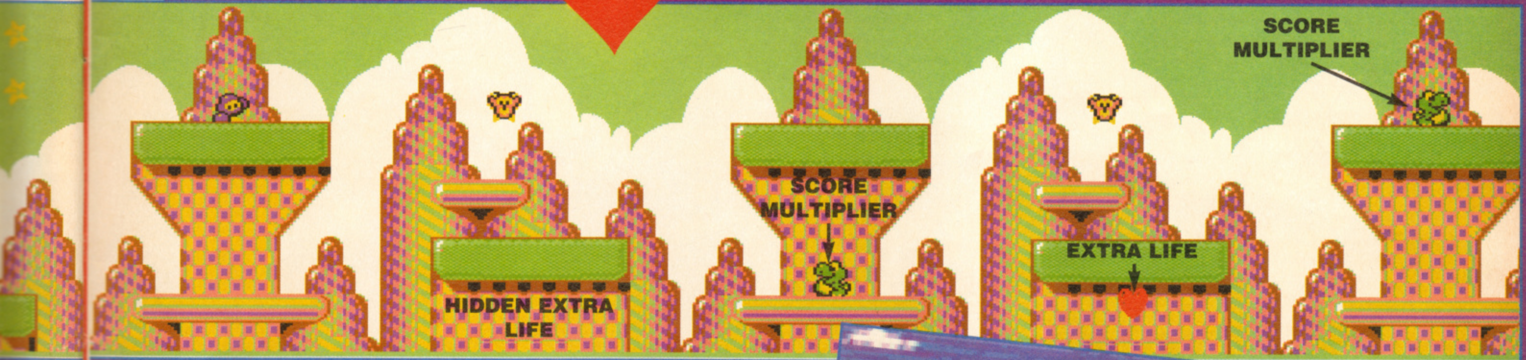
Burrowsaurus: The bigger they are, the harder they fall, and Burrowsaurus is a bit of a biggy. Just charge straight into them for a clean disposal, but be careful with the two at the far right of the level.

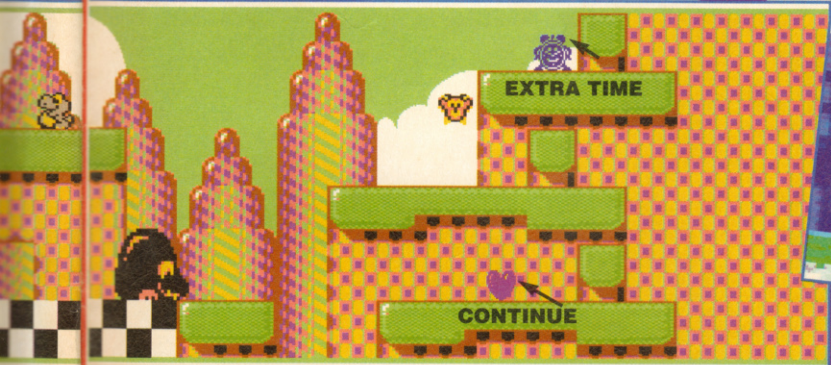
Strider: A very calm and docile opponent, which can be killed in the same manner as Dino. In certain parts of the level, the jumping gets a little difficult with these chaps running around.

Blurp Jnr: Not the nicest of opponents, but Blurp is a good introduction to the world of star-spitting monsters (just wait till you meet his big brother on Spottyland!). Learn his timing and you'll be okay.

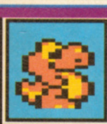
Cloudactyl: Only appears twice during the level, and can cause an untimely death if you're not paying attention. As soon as it appears, jump on top of it pronto.


TEN STARS
HALF LIFE


SCORE MULTIPLIER
SCORE MULTIPLIER
EXTRA LIFE
HIDDEN EXTRA LIFE

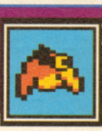

EXTRA TIME
CONTINUE

"I don't want to see another jelly for as long as I live" – Mayhem, yesterday.



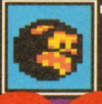
DINO

"I'm seizing this page on behalf of the Dinosaur Liberation Front, and no-one can stop me!"



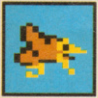
BOBO SAURUS

"Take a pill, fatso"



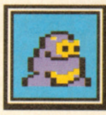
CANNONBALL

"We didn't think for one minute a walking paper spike could even write"



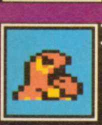
FLAPODACTYL

"You can't seize a page – what happens next month when something different's on it?"



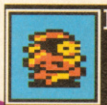
HOPPER

"My woman left me, and I've never felt more like singing the blues..."



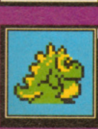
BLURP JNR.

"Will you two up there shut up?"



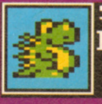
BANDIT

"Well she didn't so much leave as get stolen, really. Who's writing this stuff?"



MEGA SAURUS

"Yeah – we're trying to pout"



SPIKEY DINO

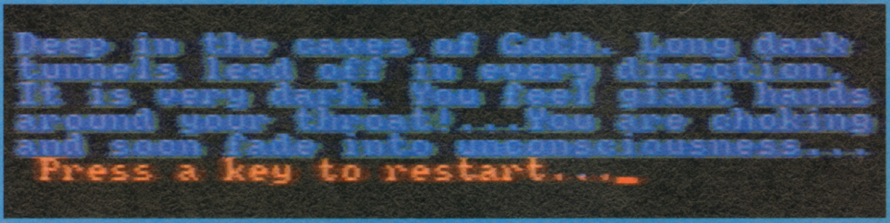
"Hey – don't look at me?"

THE QUEST OF KRON

THE SOLUTION

Yet another POWERPACK adventure which has left dozens of readers with bruised brains and blistered fingers...

The moon sets over Windy Hollow for the very last time.



Deep in the caves of Goth. Long dark tunnels lead off in every direction. It is very dark. You feel giant hands around your throat!...You are choking and soon fade into unconsciousness....
Press a key to restart..._

"somehow I knew you were going to say that. Just wait until your father gets home."

This rather tough adventure caused quite a few problems when it appeared on our Powerpack, so we've decided to give it the 'Busters treatment. Solution by Anthony Deakin, maps by Andy Roberts, hair weave by 'A Cut Above'.

From the start: EXAMINE ROCKS, GET BOAT, HOIST SAIL, EAST, EAST, EAST, EAST, REST, UP, EXAMINE RUIN, GET SCROLL, DOWN, GET BOAT, WEST, WEST, WEST, SOUTH, SOUTH, GET TWIGS, IN, GET ROPE, OUT, NORTH, WEST, WEST, WEST, THROW ROPE, DROP BOAT, CLIMB ROPE, FREE EAGLE, GET FLUTE, GET BRANCH, DOWN, GET BAR, GET BOAT, EAST, SOUTH, LISTEN, OPEN CLAM, GET LAMP.

Go EAST, EAST, SOUTH, SOUTH, SOUTH, RUB TWIGS, LIGHT BRANCH, EAST, EAST, EXAMINE SKELETON, EXAMINE RECESS, GET NUGGET, WEST, SOUTH, SOUTH, WEST, GET STONE, EAST, EAST, EXAMINE STONE, RUB LAMP, OMAR KABUL, JUMP, UP, UP, UP, KNOCK DOOR, GIVE STONE, KNEEL, GIVE SCROLL, WEST, WEST, WEST, WEST, PLAY FLUTE, DOWN, NORTH, EAST, GET JAR.

Go WEST, SOUTH, EAST, EAST, SOUTH, EAST, SOUTH, OPEN JAR, DROP JAR, NORTH, REST, SOUTH, EXAMINE GUARD, GET KEYS, WEST, GET PRINCESS, EAST, NORTH, WEST, NORTH, WEST, RAISE SHIELD, OPEN CHEST, GET KNIFE, GET CANDLE, SOUTH, EXAMINE MIRROR, PUSH PANEL, DOWN, EXAMINE DOOR, EXAMINE NUGGET, OKURA, NORTH, EXAMINE ROOF, CUT CORD, GET CROWN, RUB RING TO FINISH THE GAME. THEN AGAIN YOU COULD ALWAYS JUST LEAVE THE END HANGING 'OUT THERE' FOR A DAY OR TWO, SAVOURING THAT GLORIOUS MOMENT OF VICTORY.

"Alright, who left the bathroom taps on ."

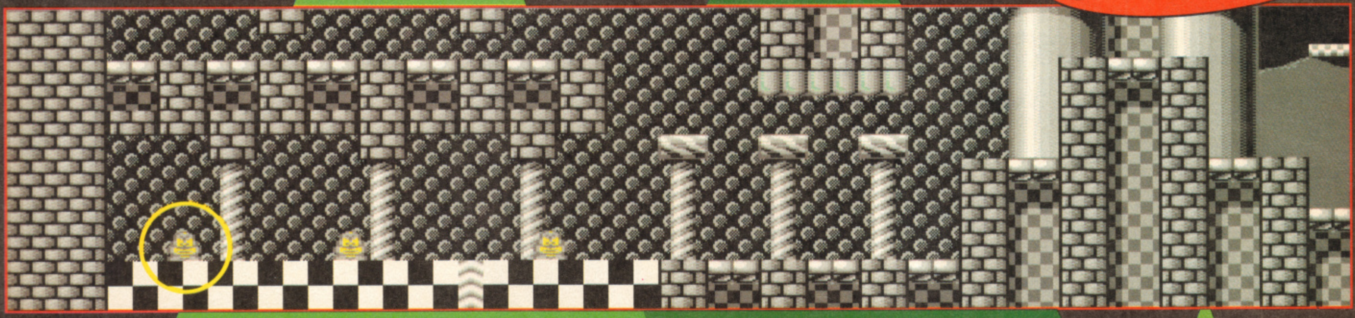
TERRIFIC TIPS

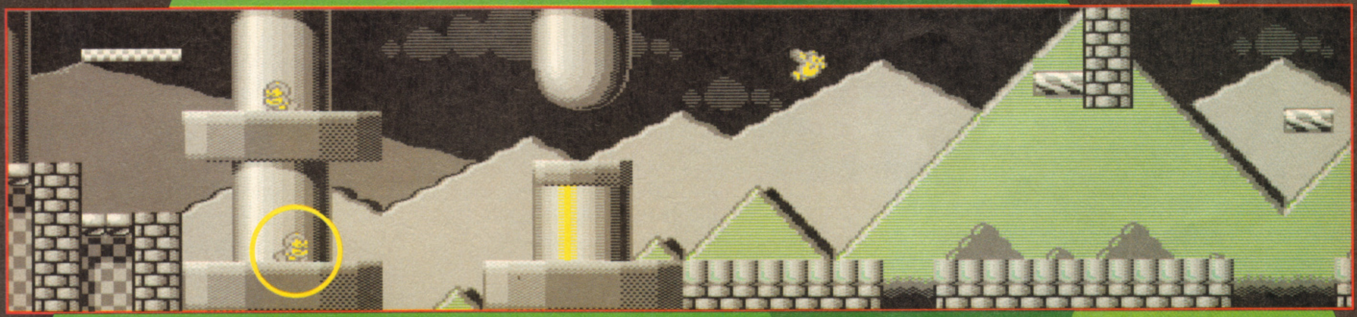
- It is very easy to take a wrong turn and die – consult the map before wandering off.
- You have limited moves when using the lighted branch and the candle, so follow the solution exactly.
- SAVE your game position regularly, as there are many unexpected traps and tricks.

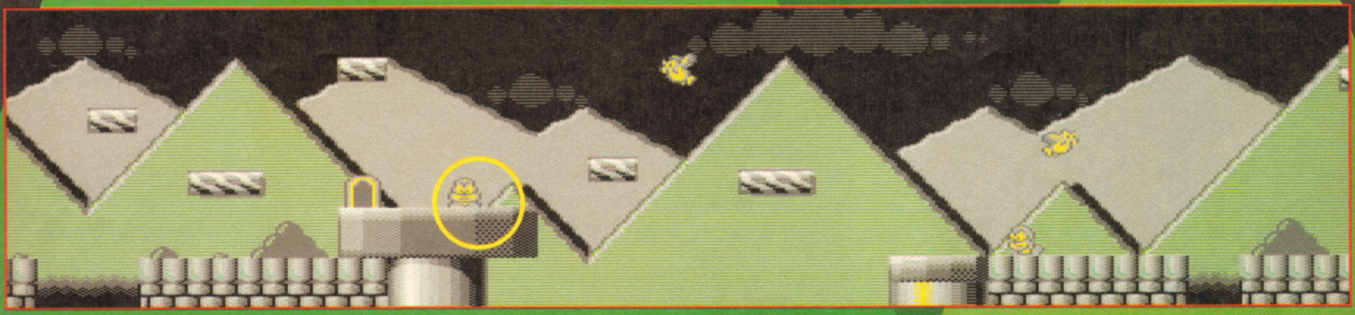
MAYHEM: II SAD PIPELAND

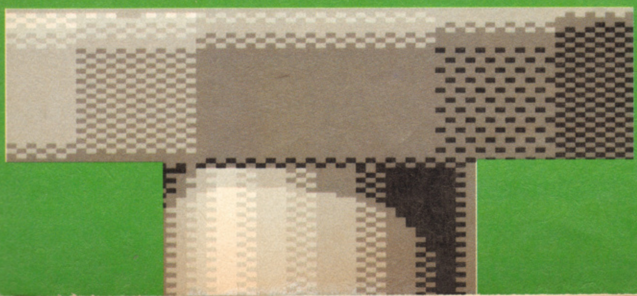
You've battled through Jellyland, so now it's time to get acquianted with Pipeland. First up the sad zone...

STAGE 2



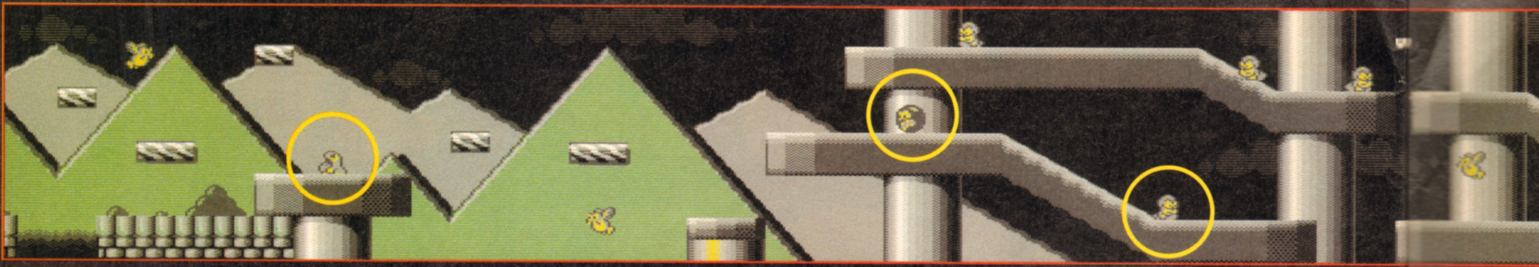


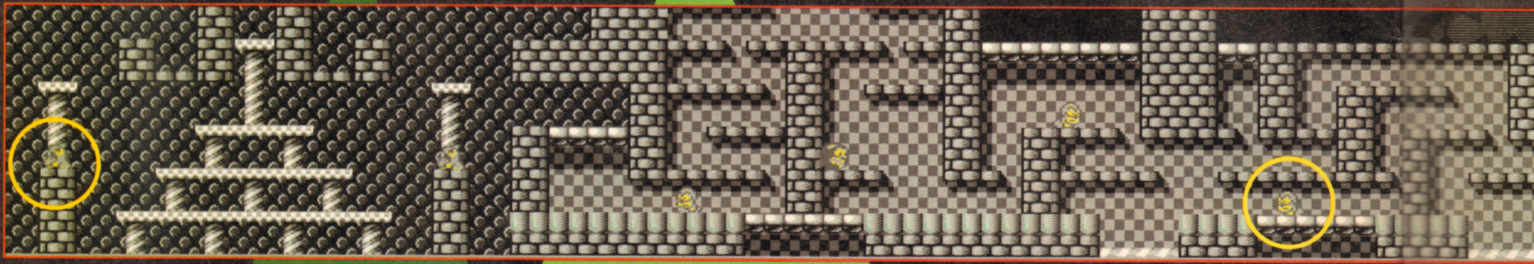


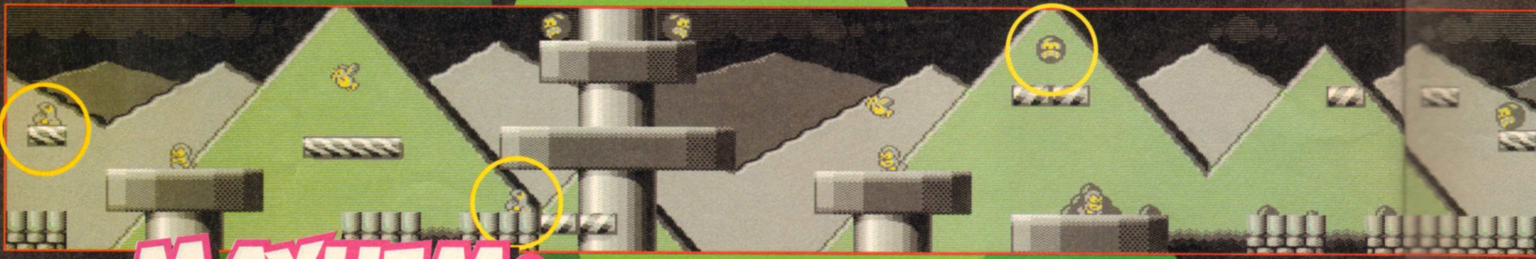


○ Bounce on these aliens heads and collect a bag of magic dust. Be sure to wipe your feet first though.

➤

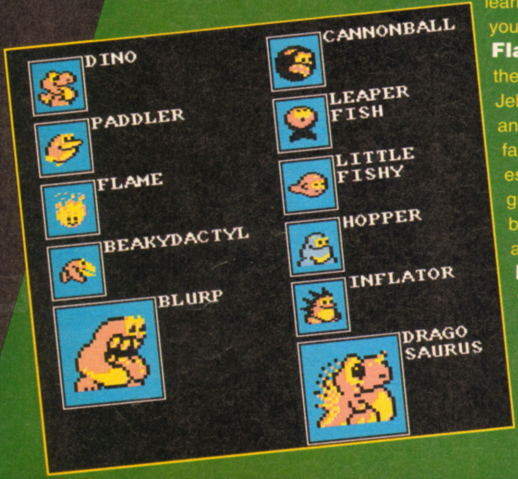






MAYHEM: SAD PIPELAND

Stage 2 – Pipeland
Time limit: 250
Dust quota: 11
Star quota: 231


DINO
PADDLER
FLAME
BEAKYDACTYL
BLURP
CANNONBALL
LEAPER FISH
LITTLE FISHY
HOPPER
INFLATOR
DRAGO SAURUS

Cast of monsters

Dino: Very similar to its earlier counterpart on Jellyland, but the Dinos on Pipeland have learned to run – now it's your turn!

Flapodactyl: Much the same as the Jellyland counterpart, and these too move faster than before. Be especially wary of groups of these beasts. Eats shoots and leaves.

Blurp Jnr: As you might expect, the bullets move a lot faster on this level, which doesn't help when Mayhem is caught in between two Blurps. Jump over the bullets onto their heads.

Megasaurus: A formidable beast, which is incredibly tricky to kill. Although it is easy enough to charge into the front of him, the lack of platforms makes matters steadily worse. So be careful.

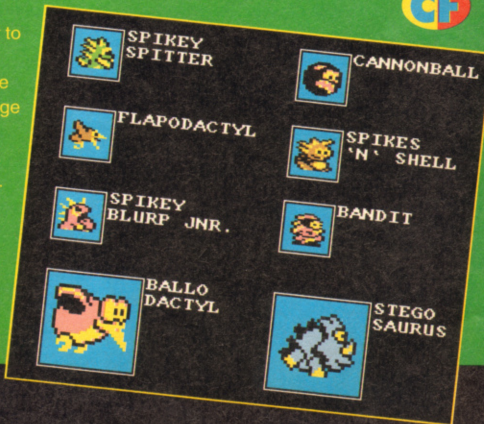
Cannonball: This weird dinosaur is indestructible on the happy level, and comes in two forms – the first spits out miniature cannonballs, and the second just gets in the way. Git that it is.

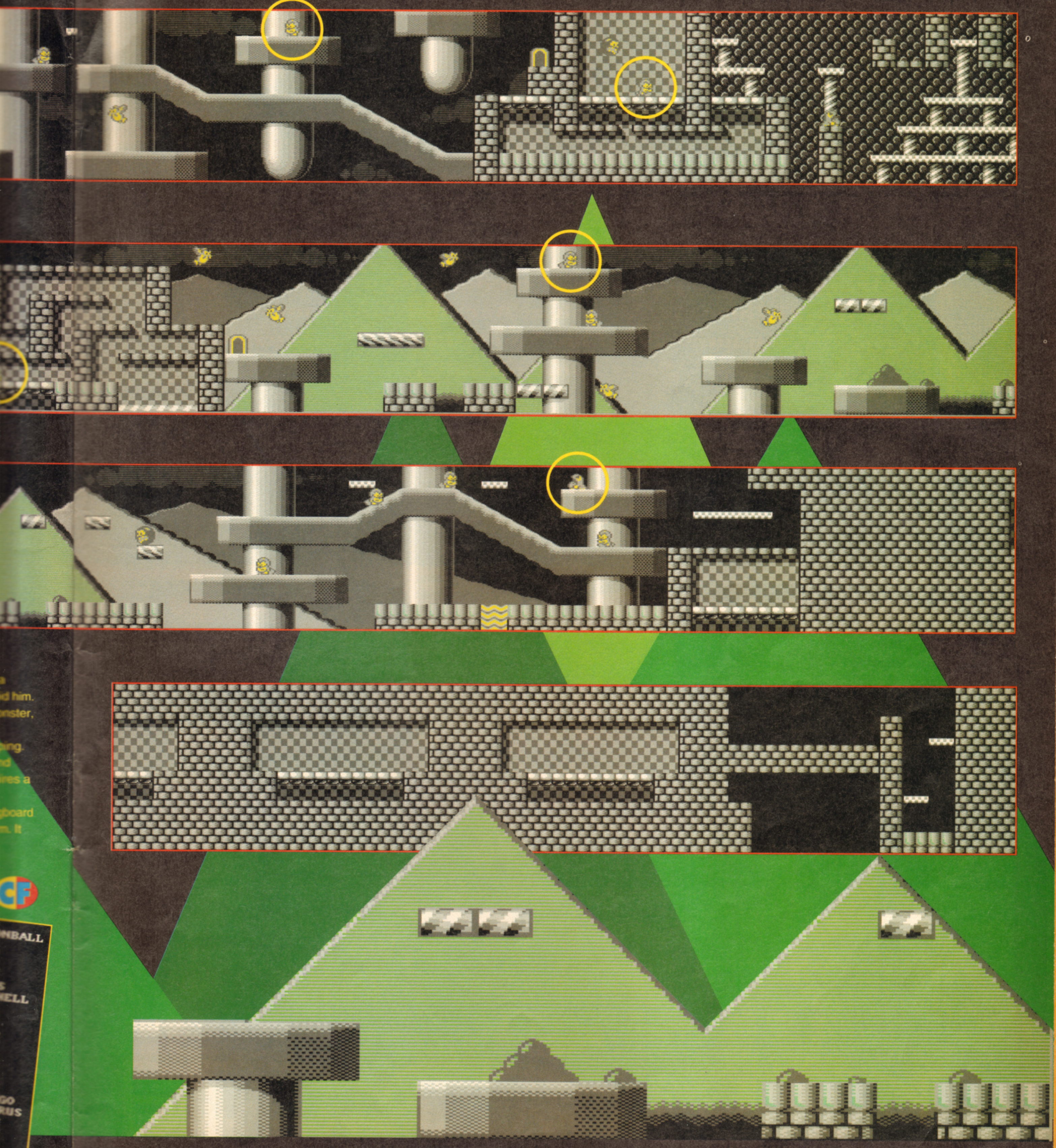
Spiky dino: Similar to the Dino in most respects, apart from the fact that you can't charge into the back of him. Stick to jumping on his head and you'll be fine.

Bandit: If you're aiming to collect a super star bonus, this is not the monster to collide with – he nicks your stars. Jump over him, take a diversion, leave the country; avoid him.

Hopper: Quite an elusive monster, as it's often possible to charge underneath him while he's jumping. The best approach is to stop and jump on his head (this too requires a modicum of skill).

Bobodactyl: This is a springboard monster, and won't harm Mayhem. It will, however, allow him to reach various bonuses (hidden or otherwise) and high ledges.


SPIKEY SPITTER
CANNONBALL
FLAPODACTYL
SPIKES 'N' SHELL
SPIKEY BLURP JNR.
BANDIT
BALLO DACTYL
STEGO SAURUS



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THE NEXT BIG THING

The next big thing is going to be basketball, believe it or not. You don't? Then take a look at Acclaim's brilliant new Mega Drive game, *NBA Jam*. You'll find the first review in February's *Sega Zone*, on sale 27 January.

sega ZONE

Look at it our way

Not so much a Super NES games mag, more a way of life.

Britain's hardest hitting SNES mag. New issue on sale FEB 10

BETTER BY DESIGN

PART 3

In the final part of this series, the Apex team reveal more of their game design secrets and then realise that they've forgotten how to get out of a nested loop...

Steve Rowlands

Jon Rowlands

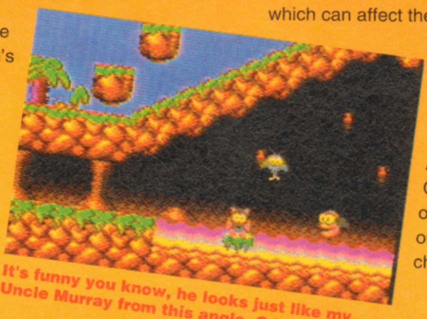
TOUCHES

WHO'S WHO John and Steve Rowlands are still the enormously talented APEX duo,who have hand crafted such icons as Retrograde, Creatures, Creatures 2,and Mayhem in Monsterland (designing the games, drawing the graphics, creating the music, and programming the whole caboodle). Andy Roberts remains the unofficial third member of the team, who worked alongside the 'boyz' on *Mayhem in Monsterland* (designing, playtesting, and programming). In the final part of this trilogy of knowledge, they still hope to enlighten the masses about the mysterious blue orb we know better as game design.

THE END IS NIGH

By this time the concept and scenario for your potential blockbuster should be well established, and now it's time to pay some attention to the main character of the game, be it a spaceship, dinosaur, knight in shining armour, or blob of flob. Firstly, the character needs to be functional, and suit the surroundings (whether the backgrounds inspire the character or vice versa). Secondly, the main character needs to look and feel good. Think about it; what do you spend most time looking at when you're playing a game? Yep, the main character.

Mayhem utilises two sprites to give him his crisp, cute details. This limits the number of on-screen monsters by one, but heck, who cares. He looks good and that's what counts, right? Wrong. You couldn't be more wrong. You're simply brimming over with wrongability. If you flick back through any of the 'Let's make a monster' features, Mayhem's control method was tweaked almost every month. Admittedly, if you're simply designing the game and not programming it, finding out which tweaks work in the game's favour isn't possible. However, try to give the main character a varied selection of moves. When he reaches the edge of a platform, make him react in some way. If he loses energy or power in some way, make him wince or yelp with pain.


It's funny you know, he looks just like my Uncle Murray from this angle. Odd that.

Playability is what counts, so try to make him walk at a decent speed,jump a fair height (proportionally to the character of course), and responsive to the player's needs. How many times have you been killed, merely because the enemies are so much faster than you. Too many, probably. Give your character a special ability (like Mayhem's chargemode) to give him a fighting chance. Again, this could be influenced by the game scenario.

Jon and Steve's seminal Creatures.
OUCH!
ACME PRESS
POWER

Another important factor to consider is the size of your character; if he's small, the playing area is much larger. Therefore, the bigger the player, the smaller the playing area becomes. As far as the C64 is concerned, one sprite is fine, although you can overlay sprites for added detail (as with Mayhem, mentioned above). Most C64 games have a character which is only one sprite big, so don't feel pressured into making your character big.

After this comes the backgrounds for the game, which can affect the gameplay substantially. The graphics shouldn't obscure the main character, for example, so don't go for over-complicated designs. After all, working on the C64 you'll be restricted to one character set, which only has 256 different character blocks.

Obviously the character sets can change from level to level, but in general keep the backgrounds functional yet simple. The best way to structure the backgrounds is by using blocks, be they 2x2 characters (DJ Puff) or 4x4 characters (Creatures). If the game is set on a static screen (for example, a Creatures torture screen) then there is no need for blocks.

Now comes the tricky part - blending the backdrops, scenario, characters,and the ideas together to make the finished game. If you have lots of ideas, don't be tempted to include them right at the start of the game. Spread them out, give the player something more to discover as they progress (this also provides them with an incentive to play the game again and again). Bonuses are always a firm favourite, so reward the player with extra lives, continues, and oodles of points when they deserve it. Also, if you're sending the player into a particularly difficult section of the game, give them a shield or extra life just before - be generous from time to time, and you'll win the player's attention and respect.

Perhaps the final element are the sonics, which can really make or break the game. The sound effects in Mayhem, for example, were constantly tweaked right through the games development, in an attempt to gain the perfect sound effect for each situation. Try to include effects for the character's movement (jumping, falling, shooting, etc), but keep tweaking them. After all, a sound effect which the player hears 20 times a minute must be easy on the ear - how many times have you reached for the volume control? Yep, too many.

Above all, have fun. Include the things that you enjoy, design a game that you would actually like to play. Be realistic, and don't borrow too heavily from other games (well, not so that people will notice). The final rule of game design is 'You are what you are'. You've either got it or you haven't, which is why 50% of all games are complete rubbish. It isn't possible to teach someone how to design games - you can only help them to improve. We hope we've helped. CF

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McDonaldland (Cass) CFMCC	£11.99	£9.99
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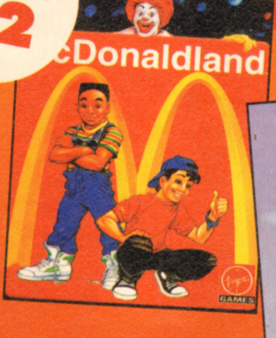

FIRST SAMURAI

UBI Soft

A classic arcade adventure hack-with-a-big-sword-'em-all-up with a distinctly oriental flavour, *First Samurai* received one of the highest scores CF has ever awarded a game – 96 per cent, and it deserved it. This game's got the lot – great graphics, great sound, great gameplay and great whatever else there is left to be great. Be warned – this game is dangerously addictive!

Description	RRP	CF Price	Order No
First Samurai (cass)	£11.99	£9.99	CFSAMC
First Samurai (disk)	£16.99	£13.99	CFSAMD

SAVE UP TO £3

COMMODORE FORMA

CF22: Cover tape – full games: *Hover Bovver, Agent Orange.*
Demo: *Robocod.*
Gamebusters: *Murray Mouse, Rainbow Islands*
Reviews: *James Pond: Robocod, Biff, Dylan Do Jimmy's Soccer Manager, DJ Puff's Volcanic Adventure, Light, Bug Bomber.*

CF23: Cover tape – Full games: *Defenders Of Th Earth, Johnny Reb 2.*
Demos: *Biff, Bug Bomber, Nobby The Aardvark.*
Gamebusters: *Maze Mania, Rainbow Islands, Seymour Saves The Planet.*
Reviews: *Cool Croc Twins, Turbo The Tortoise, Xenomorph, Millennium Warriors.*

CF24: Cover tape – Full game: *Famous Five.*
Demos: *Fuzzball, Match Of The Day, Ugh!, Cool Cro Twins.*
Gamebusters: *Space Crusade.*
Reviews: *Mega Sports, Ugh!, Elvira 2, Hägar The Horrible, Nobby The Aardvark.*
Specials: Getting the most out of your datassett

CF25: Extra Cover tape – *Saracen Paint.*
Tape – Full game: *John Lowe's Ultimate Darts.*
Reviews: *Hook, Match Of The Day, Bangers And Mash, Count Duckula 2, Frankenstein, Slicks.*

CF26: Cover tape – Full games: *Twin Tiger, Cosmic Causeway, Bomber.*
Reviews: *Stuntman Seymour, Super All-Stars, Boxing Manager 2, Popeye 3*
Specials: The First installment of the epic Let's Make A Monster series - following the progress
Mayhem in Monsterland from the Apex lads.

CF27: Cover tape – Full games: *Deflektor, Alternative World Games, The Muncher.*
Demo: *Sceptre Of Baghdad.*
Gamebusters: 13-page *Creatures 2* special.
Reviews: *Crystal Kingdom Dizzy, Bully's Sporting Darts,*

Crazy Ca

CF28: C
Gear, Lo
Champi
Gamebu
Reviews
Internat
Golf, Pai

CF29: C
ships, H
Demo: C
Gamebu
Reviews
Baghda
2, Super

CF30: C
Daedalu
Gamebu
Camp.
Reviews
Gladiato

CF31: C
Subterra
Demo: A
Gamebu
Crystal
Reviews
Specials

CF32: C
Full Utili
Gamebu
Dalek At
Reviews
Racing,

CF33: C
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Crazy Cars, Locomotion.

CF28: Cover tape – Full games: *First Strike, Fifth Gear, Locomotion, Reckless Rufus, Nick Faldo's Championship Golf.*
Gamebusters: *Spellbound Dizzy, Famous Five.*
Reviews: *International Tennis, Graeme Souness International Soccer, Cool World, Nick Faldo's Champ Golf, Paint And Create.*

CF29: Cover tape – Full games: *Herobotix, Battleships, Highway Encounter.*
Demo: *Carnage.*
Gamebusters: *Spellbound Dizzy, Batman.*
Reviews: *WWF European Rampage, Sceptre Of Baghdad, Magic Rufus, Dalek Attack, Street Fighter 2, Superstar Seymour, Lethal Weapon.*

CF30: Cover tape – Full games: *Slayer, Rebounder, Daedalus, Blackjack 21.*
Gamebusters: *Creatures, Reckless Rufus, Winter Camp.*
Reviews: *Jimmy's Super League, Carnage, Gladiators, Football Manager 3, Spelling Fair, Big Box.*

CF31: Cover tape – Full games: *Cauldron 2, Snare, Subterranea.*
Demo: *Arnie 2.*
Gamebusters: *Stuntman Seymour, Dalek Attack, Crystal Kingdom Dizzy.*
Reviews: *McDonaldland, Table Tennis, Snare.*
Specials: *SEUCK.*

CF32: Cover tape – Full games: *Thrust, Steel, Corya.*
Full Utility: *FROST* (sprite design utility).
Gamebusters: *Stuntman Seymour, Lethal Weapon, Dalek Attack, Wild West Seymour.*
Reviews: *ARNIE 2, Fist Fighter, International Truck Racing, Trolls, Stone Age, World Championship Squash.*

CF33: Cover tape – Full games: *Snackman, ATA, Water Polo, Corya Part 2.*
Gamebusters: *Lethal Weapon, Thrust.*
Reviews: *Sleepwalker, Robin Hood, WWF, RoboCod, Darkman, 4 Most World Sports.*

CF34: Cover tape – Full games: *Arac, Coyra Part 3, Shellshock.*
Gamebusters: *Lethal Weapon, The Simpson.*
Reviews: *Argon Factor, Addams Family, Liverpool.*
24-page special: The best 64 games that you can still buy.

CF35: Cover tape – Full games: *Space Academy, Hallax.*
Gamebusters: *Last Ninja, Future Wars.*
Reviews: *Suburban Commando, Pirates, Mercs.*

CF36: Cover tape: *Star Ray, Squibbly Skwob.*
Gamebusters: *Simpsons, Street Fighter 2.*
Reviews: *Gunship, Bee 52, Project Stealth.*

CF37: Cover tape: *Nebulus, I Alien.*
Gamebusters: *Simpsons, Street Fighter 2.*
Review: Exclusive *Alien3.*
Specials: The Ultimate Flight Simulator, Back in the DHSS, the penultimate Let's Make a Monster.

CF38: Cover tape: *Life Force, Freddy Hardest.*
Gamebusters: *Simpsons, Nebulus.*
Review: Exclusive *Mayhem, Hook, Nightshift.*
Specials: The Ultimate Sports game, Start your own PD library, Monstermind.

CF39: Cover tape: *Freddy Hardest, Deep Strike*
Gamebusters: *Castle Master.*
Reviews: *Lemmings, WWF2, World Class Rugby.*
Specials: Secret of SEUCKcess, Apex Game Design.
Weight: about five ounces without covertape.

CF40: Cover tape: *IO and Jocky Briefs Wilson*
Gamebusters: *Mayhem and some erm, other stuff.*
Reviews: *Treasure Isle, Cricket.*
Specials: Looking back and forward and to the sides.
Shoe size: an eight in Nikes, a nine in Reeboks.

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CHIP OFF THE OLD BLOCK

In which Lewin Edwards delves deep inside the C64's case, and reveals loads of hidden secrets for all you anorak wearing tech-heads...

Throughout this document, I assume the reader is looking at a motherboard, or photo thereof, in its normal orientation (ie. cartridge port at the back and power on the right). Also note that 'C=' is an abbreviation for Commodore.

THE POWER SUPPLY

There are several stages in the C64's power supply. To reduce certification costs imposed by electrical licensing authorities, the computer itself doesn't connect directly to the mains (this also makes for greater operator safety). The C64 transformer unit does the grunt work, converting the household voltage (110, 120, 220 or 240 volts, depending on where you are) into 9 volts AC and a smoothed (but unregulated) 5 volt DC supply.

These two supplies are fed into the C64, which is where the delicate power refinement is performed.

The C64 contains three voltage regulators; a 7805 and a 7812 at the lower right of the board, which provide 5 and 12 volts respectively, and a power translator just under the cassette port, which supplies the 6-volt cassette motor.

The power supply is smoothed by the three large capacitors just left of the joystick ports. These components store approximately 25 milliseconds of power; in the event of a momentary supply failure, they may save your C64 from a crash. (Unfortunately, they can only power the electronics. If you happen to be using a tape drive during a power glitch, the tape motor will gobble up all the energy in the capacitors in no time flat and the machine will crash.)

One important part of the power supply system which many people overlook is scattered all over the board in the form of 'decoupling capacitors', small brown plate capacitors next to just about every chip on the board. The reason they're there is because as a chip is called upon to do different things, its power requirements change (perhaps millions of times a second). If the chip was connected directly to the power supply, this changing power demand would make the supply voltage fluctuate, which might upset other components.

The decoupling capacitor stores a safety reserve of energy which supplies a little extra power in those fractions of a second when the chip needs it. (The reason small decoupling capacitors have to be placed next to every chip, rather than just having one big one somewhere convenient, is because electricity takes so long to travel down the PCB tracks that by the time it arrived, it wouldn't be needed; whic is no use.

THE MEMORY

There are two types of memory in the C64; RAM, used to store programs, data and screen information, and ROM, used to store the BASIC language, character set and other information which the computer needs at switch-on. There are three 28-pin ROM chips; the BASIC, KERNAL and character set. These chips seem to be very accident-prone; dead ROMs are probably the most common failure I've seen in the machine. As far as RAM goes, the old gray C64 uses eight 4164 64Kx1 bit dynamic RAM chips; the newer C64C uses two 4464 64Kx4-bit chips.

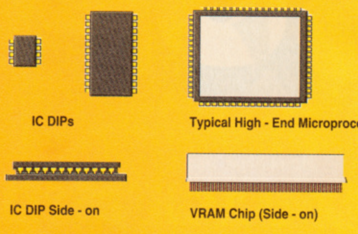
Older machines use 200 nanocecond RAM, while newer beasts have 150ns RAM, mainly because 200ns chips went out of production in 1987 or so. If you're replacing chips, try to match the rating of the existing components; the machine can get confused if some of the chips are ready for action before others. You might just have to make do, however, since the 4164 isn't made any more!

There are no real surprises in the C64's memory system; the addressing logic is a tad on the complex side, but that's more a programmers' headache than a servicepersons'. The only point to note is that because the 6502 doesn't have explicit I/O addressing, all the I/O functions have to be mapped into the memory address space, which further complicates things.

THE VARIOUS AND INGENIOUS I/O PORTS

Starting at the upper left of the motherboard and moving right, first we have the user port. Originally intended for users' own electronic projects, it is primarily used for connecting Centronics printers. Next comes the cassette port; the less said about this the better. Just one note: the C16 and Plus/4 can't read or write C64 tapes. The reason for this is

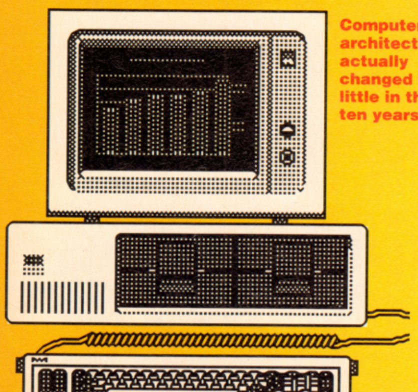
CHIPPED AWAY



Would you like salt and vinegar with your scrummy chips sir. *(Sorry, jolly old gag that one - Hutch).*

What secrets lie beneath that case?

EASY PC



Computer architecture has actually changed very little in the last ten years.

because they don't disable interrupts while loading and saving (ie. the screen doesn't go blank; the C64 blanks the screen during tape operations to maintain VIC-20 compatibility).

Next we have the serial port, which is used to connect disk drives and standard Commodore printers like the MPS 803. The C64 serial port is in fact a cut-down version of the IEEE-488 interface (which is found in its full incarnation on higher spec Commodores like the CBM 8032 and, strangely, the Commodore 128). Due to C='s strange fetish for VIC-20 compatibility (how many disk-based VIC-20s did they sell? Certainly no more than half a dozen!), the standard C64 serial rate is appallingly slow, taking minutes to load just a few kilobytes.

The next connector is the monitor socket. Although this is often described as an RGB socket, it doesn't actually provide an RGB signal. It provides a PAL CVBS video signal (see 'The Video System' below), a monochrome composite video signal, and sound. Right next to the monitor socket is the TV socket, which is fed by the RF modulator.

Last, but not least, we have the cartridge port. This port provides easy access to most of the CPU's data, address and control lines, with the select lines for external ROM chips predecoded to minimize the amount of circuitry required in a cartridge. Generally speaking, the only practical use of this port is for a freeze/reset cartridge; I really haven't seen (or heard of) a single decent piece of software making it into this format. I've got more pleasure out of eating my cartridges than playing them (and wasn't International Soccer a scrumptious morsel?).

THE VIDEO SYSTEM

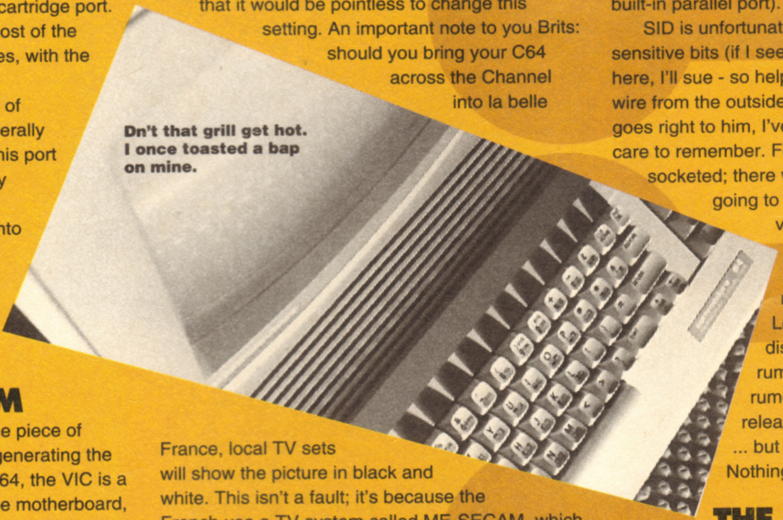
The VIC (Video Interface Chip) is the piece of hardware primarily responsible for generating the C64's display. On both models of C64, the VIC is a 40-pin chip inside a metal box on the motherboard, slightly right of centre. The metal box serves both as a heatsink for VIC, and to reduce the amount of high-frequency noise radiated by the video circuitry; if you remove the lid and switch the machine on, you will see horrid diagonal interference lines across the TV picture.

There are two VIC versions; one in a ceramic (brown) case with a metal square over the actual silicon bit, and another version in the more familiar black plastic case. If you're ever in a position to choose which one you can have, go for the ceramic one. Not only does the ceramic body get rid of waste heat more effectively (and remember, a hot chip is an unreliable chip), I have also noticed that the plastic version seems to have a blurry picture. Nothing unbearable, mind you; but you can see a definite increase in picture quality by inserting a ceramic chip. The plastic version is not very common; it was apparently only supplied as a replacement part.

The component number of the VIC is the 6566. Some C64C's are fitted with a 6567; exactly what advantage (if any) this confers, I'm not sure. The display on the C64C is sharper, but this is primarily because the C64C has far better RF shielding than the old gray VIC-20 style animal. (The gray C64's shield is a piece of cardboard with aluminium vapour-deposited onto it, while the C64C has a nice solid metal shield).

The signal which the VIC provides is called 'CVBS' video (Composite Video Broadcast Signal). There are three basic formats which this signal can take, depending on where you happen to live, but the one used by British video equipment is called PAL (Phase Alternated Linescan). This signal is fed directly to the monitor port, and also into an RF modulator (the silver box just left of the cartridge port) which 'modulates' (hence the name) the video signal onto a UHF carrier frequency which can be received by a bog standard TV set.

There are actually several sub-formats of PAL, and the little jumper just under the modulator lets you choose between two of them. In Britain, it's left open, to select system 1. In Australia, where I am, it's soldered shut, to select system B/G. This isn't the place to discuss the difference; suffice to say that it would be pointless to change this setting. An important note to you Brits: should you bring your C64 across the Channel into la belle France, local TV sets will show the picture in black and white. This isn't a fault; it's because the French use a TV system called ME-SECAM, which is very similar to your PAL system, but encodes the colour information slightly differently. It's probably cheaper to buy a multi-system TV set than to try converting the C64.



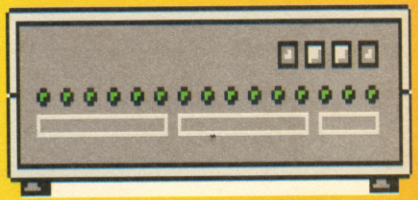
Dn't that grill get hot. I once toasted a bap on mine.

THE SOUND SYSTEM

The C64's sound, as we all know, is generated by the lovable SID chip, SID is a 28-pin chip who lives almost exactly in the centre of the old-style motherboard (just left of his good pal VIC), and rather more towards the left-hand side of the C64C board. For his day, SID was a very advanced device; he's based on the rather primitive tone generator used in the VIC-20. For people who are Spectrumally minded ("fnar!", whatever that means), SID is quite similar to the General Instruments AY-3-8910A chip used in the +2, +3 and Amstrad CPC series, except that it has programmable envelopes (and it doesn't have the built-in parallel port).

SID is unfortunately another of the 64's sensitive bits (if I see a comment from the Editor here, I'll sue - so help me). Probably because a wire from the outside world (viz, the monitor port) goes right to him, I've seen more fried SIDs than I care to remember. Fortunately, the chip is usually socketed; there were rumours that c+ were going to release an upgrade with eight-voice stereo sound, but then the Amiga came along (actually, C= litigiously pilfered and renamed a computer called the Lorraine) and interest disappeared. Mind you, the rumour hasn't died; it's still rumoured that C= are going to release an 8-voice sound upgrade ... but for the Amiga, not the 64. Nothing ever changes.

MODEM MANNERS

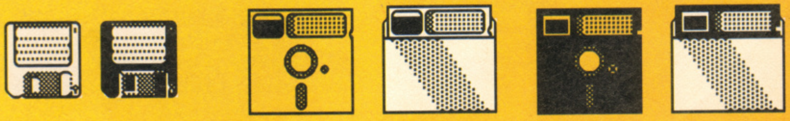


Modems use a serial port to transmi and receive information down a telephone line.

THE OTHER BITS...

This is the end of the article. Before you get all worried because many of the chips on the board haven't been mentioned, you should realise that they are mostly there to decide which hardware the 6510 wants to talk to at a given moment. On the old-style C64, there are about a dozen assorted chips which handle this task; on the C64C, most of these devices are bundled into whumping great double-density-pin chip, about 80 pins I think. Hopefully I'll be back with another feature in a few months, if Hutch ever gets round to sending me that commision.

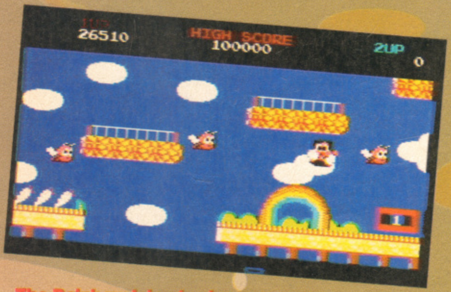
SLIPPED DISKS



"Right then Mrs Simpkins, if you could pick out the disk that corrupted your data from this line-up we'll get the rogue locked up. Step forward number three, you're a C64 disk aren't you!"

What happens to classic C64 games? They get recycled of course. Hutch is our man with the detective coat and the truth serum...

BEG, BORROW,

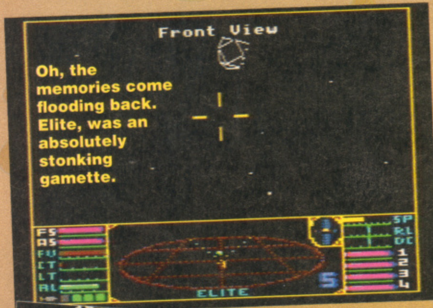


The Rainbow Islands phenomonem, truly original platform game action.

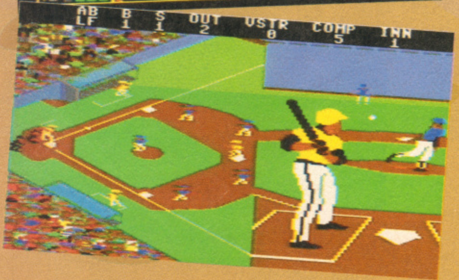
In the beginning there was an idea. Then there were a couple more. Then the ideas ran out and the first one got recycled and then the second and third and then they went back to the first again. Such is life friends. Everything from movies to clothes gets dragged out of the closet, dusted off and bunged at the masses, leaving everyone with a strong sense of dejá vu and the peculiar feeling that they're being conned.

The C64 was the birthplace of hundreds of supposedly 'new' console and 16-bit computer games. It's hardly surprising when you think about it, because the world's most popular 8-bit home computer was where many of today's top flight programmers started out. They cut their teeth on its BASIC language, dabbled with assembly code, released their titles and then moved on up to big bucksville in consoleland.

Sometimes all this repackaging is purely cosmetic, sometimes it's just an idea that gets picked up on, more often still a new genre of game gets the console treatment. But we all know the truth don't we. It all started here in an off-grey case in 64K of memory.



Oh, the memories come flooding back. Elite, was an absolutely stonking gamette.



Don't ever be tempted to go to a real basebal match. It's an exceptionally dull event.

MOVIES MOVIES MOVIES

If you keep abreast of developments on the consoles then you'll know that these days film licences are programmed in conjunction with the movie itself. For instance, if the animation in the console *Aladdin* games looks good then it's because actual Disney animation teams created the sprites.

It wasn't always that way though. Remember games like *Back to the Future*? *Aliens*? *Robocop*? *Lethal Weapon*? *Spy Who Loved Me*? These were games developed (invariably by either Ocean or US Gold) from the movies after the licence was picked up nice and cheap. You knew exactly what to expect from the game, as it usually followed a small section of the plot such as a car chase or a shoot out. Nine times out of ten what you got was a platform game.

So is life any happier in consoleland? Well, ignoring the odd exception (like *Aladdin*), the answer's a resounding nope. Buy a movie licence game on cartridge and you can bet you're going to get an enormously dull platform game which has all the lasting interest of a party political broadcast.

Life hasn't even changed for the better with the advent of so-called multimedia CD games. Everyone gets promised an interactive movie and what you end up with is a platform game with CD sound and nicely detailed sprites. Give me *Aliens* (US Edition) any day of the week.

THIS SPORTING LIFE

We've seen simulations of all shapes and sizes on the 64. Remember *RBI Baseball*? *BMX Simulator*? *Stunt Car Racer*? *Leaderboard*? All of these games took a sport and gave it the pixel treatment. And they were all stonking. I'm not saying that there haven't been *any* crappy sports simulations on the C64, but when they are good, they're blimmin' wonderful.

So let's peer over the fence into consoleland again. Have things changed with all those hardware sprites, millions of colours, eight channel sound and impressive zooms? Have they hell. Pick out any golf game on any console or computer and they all look like *Leaderboard*. The sprites may be more detailed and the update a bit more rapid, but they are no more playable than the original computer golf game. In fact the only difference is likely to be a big name endorsement from someone like Nick Faldo or Sevvie B.

What about car racing games? I hear you shout, surely these would include some innovations? Not a chance. Ever since Geoff Crammond did the business with *Stunt Car Racer*, what's counted is realistic feel and movement. On the SNES they wittered on about a game called F-Zero, saying that it felt wonderful to play. Yeah, right. It felt no better than *Stunt Car* and had less lasting interest.

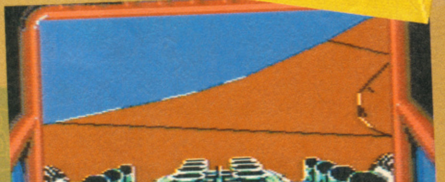
During the last ten year, practically every sport on earth has been simulated on the 64. Everything from Sumo Wrestling to Darts has been 'done'. And when, inevitably, the console programmers decide to do their own version, they 'borrow' heavily and add no more playability. It

DISCLAIMER

Hutch would like it to be known, that should any console owners disagree with him, he will meet them in the Sainsburys carpark after work where he offers to sort everything out for them with a good solid kicking.

Should anyone actually dare to disagree with his Hutchness then write and tell us why at *Just Hold On One Minute Matey*, Commodore Format, 30 Monmouth Street, Bath, Avon, BA1 2BW.

Over here son, on my lap. Say hello to your old dad, back home after a hard day at the office.



This kind of open-topped car is perfect for impromptu barbecues or family outings.

STEAL

might be called *Mortal Kombat*, but it's just *IK+* in a pair of new silky pyjamas.

CATCH A SHOOTING STAR

Back in the old days there was a thing called the shoot-'em-up. Its roots lay in *Space Invaders* (from Taito) and *Defender* (from Williams). However it reached its zenith on the C64 in games like *Uridium*, *Sanxion*, *Sheep in Space* and *X-Out*.

1UP 001200 3 0132

Oh no, here come the killer blenders of Zarglepling.

You all know the score, you've got three lives and you scroll up or across the screen zapping away at the invading hordes in the vain hope that Squidbygrapletax 7 doesn't get infiltrated. It's all just a test of reflexes and timing and nothing else.

So in consoleland, where (lest we forget), they've got all that sound, colour and speed, life should be refreshing, new and interesting. Ha! The only difference between a console shoot-'em-up and a 64 shoot-'em-up is the increasingly sad names they manage to come up with for the invading masses. Alright, they might bung a bit more parallax scrolling in there, but you've basically got exactly the same game as we've all been playing for the last ten years. It makes you want to spit.

Welcome to Dixons. Can I offer you a Sansui video?

RED WINS
WHITE STAYS IN
COME ON BLUE

Life down at Bath boating pond was never dull. Sammy and Larry loved its air of doom.

Sure, but it's nothing to lose your head over.

What gets me is that all those console-owning chumps out there actually buy the whole ridiculous scam. It was only late last year, that Andy Braybrook released the eagerly awaited *Uridium 2*. Everyone salivated over it and the magazines gave it suitably high scores, but again, it was just *Uridium* with a different kind of nail varnish on.

Look at any of these big name, hyped up space games and you can see an old 64 game crying to be let out. Check out *Starwing*, the hugely hyped SNES game featuring a DSP chip. Oh, pardon me while my bowels release with the excitement of it all, it's just *Elite* or *Star Wars* with shaded polygons. What's more, Elite is a hundred times more playable and scores bonus points for completely lacking sad looking animated foxes.

EVERY WHICH WAY BUT UP

It doesn't matter what you look at, it all (and I mean all) started right here. From stonking platform games like *Rainbow Islands* to arcade adventures like *Rick Dangerous*, if you lift the carcass of a console or 16-bit computer game and look underneath, you'll find an old 64 game.

So why is this? Why can't the idiots do anything original with their incredibly sophisticated machines. The answer's simple, we've covered all the bases over here in 8-bit land. Consoles and console games aren't about playability, they're about image. Buying yourself a copy of *Mortal Kombat* instead of *Street Fighter 2* is just like getting a pair of Reebok trainers in preference to a pair of Nikes.

The producers of these console games know that. It makes them happy, because it means that they can release the same old stuff, decade in, decade out. Attach a celebrity name to a trite little platform game and just watch the little darlings leg it down to Smiths to buy it.

The whole computer games industry has been hijacked by the big money corporations of Japan and America. They have slowly but surely bled dry the wonderfully diverse British scene and transformed it into a shallow, plastic, image obsessed cog in the entertainment industry. It is now more than ever that the world needs 8-bit machines like the 64.

In this domain we're not bothered about the packaging and we don't care about the celebrity tie-ins, what we care about is originality and playability in equal measure. On our favourite computer you've only got 64K of memory to play with and so the game's just got to be playable. Cosmetic sheen on console games doesn't hide that small but pertinent fact. One can only hope that the console owners let us get on with what we see as a hobby and they regard as a way of life. After all, when did you last hear of an anti-social 64 owner who played a beat-'em-up and decided to try doing the moves on someone in real life. Let them believe it's real, while we play our (original) games. Next month we plan another ranting tirade against the consoles. So watch this space.

A SHORT HISTORY OF THE PLATFORM GAME

⑨ EMPIRE STRIKES BACK

⑧ LETHAL WEAPON

⑦ INDIANA JONES

A

⑥ BACK TO THE FUTURE

⑤ BATMAN

④ JET SET WILLY

B

③ MANIC MINER

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① DONKEY KONG

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⑦ CRETACEOUS
⑧ TERTIARY
⑨ CRUDCONSOLIAN

A ORIGINAL PLATFORMERS

B ATROPHY SETS IN AS THE CONSOLES TAKE OVER

NEXT MONTH

What a start to the year then.You can't have failed to notice the number of features in this issue, particularly those of a technical nature. Now we know that you're all into games and that sort of thing and don't think for a second that we're going to stop covering them, far from it. It's just that as the market gets smaller and smaller, so we have to look for other things to occupy you. The most interesting side of things is definitely programming. To that end we're going to be explaining programming at all levels of competence over the coming months. We'll have you all coding by the end of the year.

The Powerpack will continue to include stonking games and demos, we'll continue our series of EDOS reviews and (as we go to press) we've got some new, original and previously unheardof full price games to review. Just as we predicted, smaller programmers are coming up with great games to please you all. Stick with us, it's going to be a hell of a year, even if we do say so ourselves.

Hutch

ROGER RABBITS

(Blztp...) Helo agin reedrs. Frame hir agin frum mi luvly prisn cell. . & ! Ive hack the typsetting comptr agin to brin u thiz reprt. *(£@+ . dam. Xmassss waz nut much fun ovr here in jail. i didnt git any terki or presnts and sew i gut a bid dpressd . but i thnk ive foun a way of escpin . ive discoverd AND FIRST IN THE 3:15 AT DONCASTER WAS *LUCKY BOY* AT ODDS OF 4-1, SECOND WAS !!£@* dam interfernc agin. innywway mi escpe roottt invlves stilling a gards unform und smpley walk thru th min THIRD AT ODDS OF 99 TO... &*£ dam agin were wuz i. . . . o yez thru th min gate and owt to fridmn. a i anyway i mist go know cuz the girds return inny min. . . & . . do sind mi luv 2 allll of thu cf crewe. . . . &!2 by fur now . . . . FRISKY PETAL WAS A NON RUNNER. THE POOLS FORECAST IS HIGH ...dam by now Cf chaps.

CF SHARES OFFER!

Forget that new Spielberg series, there are far more intersting things happeing on your C64. *CF*42 will be on sale on the 15th February 1994, but you can get a special 'Mag-Save' option on this limited edition*. Just fill out this form and hand it to your newsagent and they'll stash a copy away for you. No more *Alive and Kicking*. Hurrah!

MAG*SAVE

Hey Newsagent dude/babe (Sir/Ma'am),
Like, save me one of those righteous (rather good) *CF*s (*Commodore Format*s) man. *CF*42 (the February issue) is happening (goes on sale) real soon (on the 15th of February). Excellent (Thank you very much).

MY NAME ____________________

MY ADDRESS ____________________

____

____

THE LAST WORD

Thanks Tim. Mate!

Back to basics eh! Now, here at CF we're not particularly bothered about what politicians get up to in their own time. But when the government crows about family values when lots of its members are adulterers, we reach for the sick bags and pray for the revolution.

HUTCH

COMMODORE FORMAT

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Editorial & Advertising Offices:
Commodore Format, Future Publishing Ltd,
30 Monmouth Street, Bath, Avon, BA1 2BW.
Tel 0225 442244
Fax 0225 446019

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Art Editor Ollie 'Ollie' Alderton
Staff Writer Simon 'Tag Team' Forrester
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Hutch would like to thank: Bjork for being the most original and innovative singer to hit the scene in a long, long time.
Ollie would like to thank: Moss's hi-fi shop for hanging onto his CD player for over a month for little repair job.
Lisa would like to thank: Cam for being in proportion and making her a wonderful cup of tea on a dull Saturday.
Simon would like to thank: His manager, his agent, his publicist, his manicurist, his bodyguard, his astrologer and his bird.

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